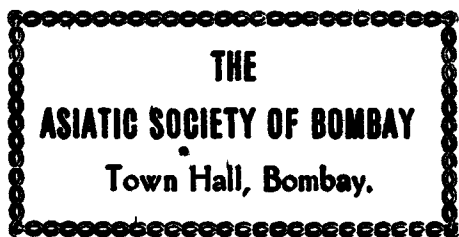




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THE GENTLEWOMAN'S
BOOK OF HYGIENE,

EDITED BY W. H. DAVENPORT ADAMS.

THE GENTLEWOMAN'S BOOK OF HYGIENE.

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BY

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"Life is not to live, but to be well."

MARTIAL.



W.T. J. 6

LONDON:
HENRY AND CO.,
BOUVERIE STREET, E.C.

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PREFATORY.

THE writer's object in the following pages has been to lay down, in the plainest possible language, those general laws on the observance of which depends our physical, mental, and moral health. The general subject of Hygiene is therefore comprehensively treated, but with special attention to women's wants ; and the individual is followed from childhood to maturity, through the different stages of growth, with, it is hoped, adequate attention to the peculiar and varying conditions of each. The reader will observe that the writer deals with *principles* which are applicable to all, and not with *details* which may differ in almost every case. For this reason little is said respecting the "cure" of disease, which, indeed, cannot safely be attempted from books ; greater

stress being laid upon the means by which disease may be "prevented," and a healthy body and mind secured. The chief points upon which the writer are : Temperament and Constitution, Childhood, Education for the Young, Education, Adolescence and Puberty, Ailments of Girlhood, Womanhood and Maturity, Dress, Skin and Complexion, Baths and Bathing, Sleep and Rest, Recreation and Exercise, Obesity and Thinness, and Maternity. This brief recapitulation will show how wide is the range of a volume which it is hoped, will be thought worthy of its place in the GENTLEWOMAN'S LIBRARY.

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THE GENTLEWOMAN'S BOOK OF HYGIENE.

CHAPTER I.

GENERAL REMARKS ON HEALTH AND DISEASE.

THE question of Health is one which has risen into marked prominence of late years; and every man or woman of any pretension to culture, to scientific knowledge, to interest in the physical well-being of the community, is desirous of becoming enlightened on the subject of personal, domestic, and national hygiene. Indeed, so pronounced is the taste of the public for all such matters, that manuals of information are multiplied by the dozen, and are read with intelligence and attention by ever-increasing numbers. We might almost declare, with a certain amount of truth, that every one is gradually becoming his own physician;

and, if humanity at large is possessed with the desire of ridding the world of the awful diseases which are still a disgrace to its daily advancing civilisation, it can be done only by each one setting his own house in order. We may ask ourselves whether men and women can cherish a higher human or Christian ideal than that of trying, by all legitimate means in their power, to lessen, if not to stamp out completely, human suffering. A large part of our Lord's ministry on earth was directed towards this end,—that of releasing individuals from their physical torments, due to the various and terrible disorders which afflicted the Eastern races at that time. He was Physician of the body as well as of the soul. See what a prominent place He gives to this portion of His divine ministry in His answer to St. John the Baptist, who sent two of his disciples to ask whether Christ was He that should come. And Jesus answered, "Go and shew John again those things which ye do hear and see: the blind receive their sight, and the lame walk, the lepers are cleansed, and the deaf hear, the dead are raised up, and the poor have the Gospel preached to them." And in another place we read that Jesus saw a great multitude, and was moved with com-

passion toward them, and *He healed their sick*. So that, on Christian testimony alone, we feel and know and believe that it is not only a Christian's right we are exercising, in using our utmost endeavours and all the resources of science to banish disease from the world; but it is also our bounden duty and responsibility to exercise that right in so far as we are individually able to do so.

Christ bequeathed His own miraculous power in the healing of disease to His disciples; and therefore any doctrine that is preached or promulgated, to the effect that the body is to be neglected whilst the soul is to be saved, which some few fanatics have preached and practised during the past eighteen centuries, is anti-Christian, and cannot be defended on any Christian evidence whatever. It is a well-known fact that here and there the highest spirituality and the most beautiful lives of self-sacrifice, devotion, and piety have been found in conjunction with the most intense physical suffering; but it must be admitted that such cases are the exception, and not the rule. In the vast majority of instances of physical suffering, the mind, nature, disposition, and character run a terrible risk of demoralisation, and, if not of actual demoralisation, at any rate of some amount of

temporary, if not permanent, injury. An aching tooth does not render a person sweetly disposed towards the world and his kind. Dyspeptic troubles do not conduce towards brightness, amiability, charitableness, and altruism: rather do they tend towards self-absorption, irritability, gloominess, and sharpness of tongue. One's spiritual views are apt to be much lessened, and run a great danger of being swamped altogether, in an overflow of that officious fluid, the bile, which irritates the brain and nervous system so disastrously, when it circulates in the current of the blood.

It is quite possible to conceive that many a pessimistic poem, that much gloomy philosophy, rank materialism, heartless cynicism, and man's inhumanity to man, would never have darkened and influenced the world's literature and history if good health had been a much more common possession of mankind than it has been. Actual experience of pain does not always render one the more sympathetic and kindly disposed towards others who are suffering. Pain is such a terribly jealous mistress, that self is the dominant factor and centre round which everything else revolves whilst it is in possession. Pain may have

its salutary effects over some lives, but if it really conduced towards all the higher virtues, as some have maintained and argued, then human beings ought to be a vast deal happier, more virtuous, and less sinful and selfish than they are to-day, for pain is the commonest of all our hereditary and acquired feelings and failings. But it is not so, and therefore health reformers may enthusiastically set to their work, in the belief that, as they succeed in ridding the world of disease, ill-health, and pain, so will the higher faculties of human nature and many virtues have a far better chance of existing and flourishing than they have done in the past.

Mens sana in corpore sano.

We might ask ourselves the question whether we have any true notion of what constitutes health; and, considering it from all points of view, we come to the conclusion that our estimation of health is but a relative one, and, in the present condition of things, cannot be an absolute one. If we venture into the region of the Ideal, and begin to formulate Utopian views as to what a perfectly healthy race of human beings would be, we shall fall aghast before what we see and what surrounds us now-days. The world to us, who indulge in these Utopian speculations, seems one huge hospital, in which

every member is more or less of a patient, despite the vast improvements which have been made in the individual health of the community during the past fifty years. If we have the least faculty of observation at all, if we have studied the subject to any extent, we know and see that the rising generation, in nearly every class of society, is a far healthier, stronger, and therefore more beautiful one than the generations of ten, twenty, and thirty years ago ; in fact, of any preceding it in this century. The children of to-day have a *better chance* given them of healthy physical and moral development. They do not run the same risks of incurring the seeds of ill-health that their predecessors ran. The clouds of ignorance, which so fatally obscured subjects of the most vital importance to the well-being of the human race, are being gradually dispelled before the glowing sunlight of knowledge and science and humanitarianism. Education is becoming more of a fact, and less of a theory; and the awful prejudices, which hemmed and caged people in, are being broken down by degrees. And thus the world, huge hospital as it is, is more of a convalescent hospital than it was during its dark ages of ignorance and prejudice ; and we may begin to indulge in dreams of what, by united effort, we may

possibly bring it to, when every human being is more or less educated and enlightened.

Deep down in the heart of humanity there is a yearning, a craving, after what we have learned to call the ideal. In the terrible struggle which faces the great majority of us from the cradle to the grave, the ideal, and the longing after it, often becomes sadly mauled, and perhaps crushed out of existence altogether. But it persists, and we see from the existing facts of our civilised society, from our comparison between what is and what has been, that this sentiment of the ideal goes on deepening and spreading in our lives, and makes us yearn for perfection. Thus, as a whole, our efforts are never relaxed; and even when terrible catastrophes in our national and social systems occur, which, for the time being, seem to wreck countries and dynasties, and to throw them back in the work of civilisation for whole eras, yet the ideal is not killed in the human heart: it is only paralysed for the time being. It once more revives, and each time, as we see in the history of mankind, with renewed vigour, with extended aims, with higher aspirations, with grander results. Our civilisation, faulty as it is, distressingly inadequate as we see it at times, is a more human, a more Christian, and,

consequently, a more perfect civilisation than any that has preceded it. We are nearer perfection, far as we must admit ourselves to be from it. And, in this latter end of the nineteenth century, we are directing our attention more and more to the perfecting of human beings themselves. Not content with ministering to their external and purely material comforts, we aim at making every human being more physically fitted to fight the world's battle. We are perfectly well aware of the fact, and it seems a truism to mention it, that disease and ill-health handicap a person's struggle for life, and therefore we are directing the resources of our latter-day civilisation towards the extinction of disease. Medical science is obliged to admit the humiliating fact that, from the days of Hippocrates to our own, it has been able to accomplish very little in the way of *curing* disease. It has been instrumental in eradicating many painful and loathsome disorders from which humanity has suffered, but this triumph has seldom been achieved by discovering any curative agent for the disease, but through applying a preventive to that which caused it. And I think we must look upon this as the only true and scientific method,—a method which will be relied upon more and more as our knowledge

widens out and becomes less hampered by past restrictions and prejudices. Science, like everything else, must be allowed to breathe the glorious air of freedom, before it can shoot forth all its branches ; and these, given freedom, will bear their rich burden of fruit in time.

Now, I must contend that the slow progress we have made towards realising many of our ideals, in this matter of health (and, we might add, in nearly all other matters of human interest), has been the one-sidedness of the work entered upon. Men have thought it possible to make a perfect world, to achieve their ideals, to carry on their multifarious projects successfully, without the co-operation of the beings sent into the world by a merciful Creator to be their co-mates, I humbly venture to say their equals in difference. I do not wish to offend and outrage those lordly instincts in man, by saying that men and women are in all things equal, any more than I wish to outrage and offend those feminine and beautiful instincts in woman, by insisting that man is her equal in all things; but I do say here, with all due deference, that each sex is the complement of the other, and that any feeling of sexual antagonism or sexual inferiority is derogatory to the human race as a

whole, and, so long as it lasts, must prevent the world from advancing towards a realised ideal. Men should be glad and proud of learning truths from woman, if she be capable of imparting and originating them, because she is a human being, has been made by God in His likeness, and has therefore, with man, had something of the Divine life breathed into her. Truth is neuter, neither masculine nor feminine in our language,—albeit the French, with their well-known gallantry, have made it feminine, and therefore, if it fall from the lips of a woman, does it necessarily become less worthy of notice and consideration? Men, perhaps, can little realise, and would be slow to acknowledge, how much the world has lost by its almost wilful disregard of the feminine element in it; but the feeling must have made itself uncomfortably prominent in the masculine mind,—otherwise, how can we account for the growing co-operation between the two sexes? Of all the evidences of a superior civilisation, of a more beautiful and perfect Christian ideal than any the world has ever seen, the present position of men and women towards one another is the strongest. There may be some amount of surface antagonism between them, due to the many social forces at present at work, which

are changing and modifying society in such a variety of ways; but this, we will hope, is only a transitory feeling, that will gradually disappear as a more settled and better condition of things is reached for both sexes. It is not a question here of women's rights or women's wrongs, but, as far as the subject I am dealing with, a question of the rights of the human being. If men are striving towards perfecting the human race physically, intellectually, and spiritually; if they are really desirous of ridding the world of its heavy burden of disease and ill-health, they *must* take women into co-operation,—otherwise, the work will never be satisfactorily accomplished, the ideal never attained. The two sexes must work in harmony and together for the common good.

As a matter of fact, women fundamentally are not less healthy than men. They are muscularly weaker, because their muscles have not been so highly trained and developed; but that they are incapable of such training and development has yet to be proved. Personally, I am no advocate of a brawny, muscular type of woman; I do not think there is anything particularly beautiful in muscle *per se*; I prefer the suave, delicate, and graceful outlines of a woman's form, which are

given by a sufficient and healthy development of flesh. Nor have I any ardent desire to see woman emulating man's achievements in the muscular line. I would not debar her from doing so, if she felt that life offered her few charms unless every muscle in her body could be made to stand out like a bar of iron ; but, from a strictly medical point of view, I cannot maintain that health itself is dependent upon the excessive training and physical development of muscle. That women's muscles have been undertrained and greatly neglected in the past, there is not the slightest doubt ; but, in our rage for improvement, we may possibly err in the opposite direction. We want women to be healthy, strong, and enduring ; we look for them to be physically capable mothers ; we should like them to throw off many disorders which keep them under par ; but we also hope that the sense of beauty and proportion will never be lost to them. The ideal of feminine beauty always has been, and, I expect, always will be, different from the ideal of masculine beauty ; but if women aim at achieving the same amount of muscular development, and by the same means, as men, then I fear, although I cannot possibly be dogmatic on the subject, they may lose something in the direction of physical

beauty. And I am an advocate of beauty. Let me say so at once, and let me not be misunderstood: I would like to see every human being beautiful, because I feel it was the original intention of our Creator, and I believe that beauty is a worthy physical ideal at which we should aim, as much as for perfection in any other line. The soul aspires after the beautiful, the heart longs for it, the mind approves it. Whether we look on the beautiful in Art or in Nature, we feel that God is speaking to us in it, giving us a glimpse of the eternal Hereafter. There is scarcely any sense so potent in man as that which responds to the sights and sounds of the beautiful. Why does our whole being glow and thrill when we look upon a perfect work of art in painting or sculpture? when we listen to the music of a Beethoven or a Chopin? when we read some verse from a poet's hand? when we gaze upon mountain and valley in a favoured land? when we see lovely children and women, unconscious of their loveliness? We do so because God has implanted in us that love and reverence for the beautiful which are but a reflection, faint and far-off it may be, of Himself and heavenly things.

The puritanical-minded have argued that fostering

and cultivating a love of the beautiful must necessarily breed vanity, discontent, envy, and many other despicable faults. And the consequence of such teaching has been an unnatural thwarting and disregard of one of the most powerful and ideal instincts in man. Never was a greater mistake made. True beauty cannot exist in the presence of envy, vanity, jealousy, and discontent, or any other base quality of the mind. True understanding and appreciation of the beautiful, in whatever form it may be exhibited, never yet led man astray, or did anything but elevate and purify his mind. It is the false, the meretricious, the artificial, the counterfeit, which have fostered low tastes, base passions, degraded ideals, in men and women ; and it is against these the Puritans should have waged war, instead of directing their efforts against what was beautiful and therefore true. But the human mind will not be fettered. Generations of Puritans have narrowed their lives, chained down the healthy aspirations of their souls, imprisoned their intellects, thwarted the yearnings of their hearts, in order, as they thought, to please God and do His will.

Beauty they shunned as a snare of the devil. Even the most innocent of all the arts, Music, was tabooed ; and thus would Puritanism have

shut mankind off from every soul-inspiring influence. But it was not to be. The Puritan's reign has been a long one ; but the English mind, during the past century, has been gradually shaking itself free from its paralysing ascendancy, and is once more panting for space to develop in the regions where beauty only is to be found. May human beings, as they grow in wisdom and knowledge, understand that a natural revolt against a licentious use of wealth, profligate luxury, riotous indulgence in splendid living, does not mean that the beautiful in Nature and Art is to be condemned because it seems to lead in some unbalanced minds to these unhealthy manifestations ! Because men show vicious propensities and let their unrestrained passions run riot, that is no argument against the cultivation of all that is beautiful and true : it is, on the contrary, an argument in favour of it. For if men's faculties were from the earliest developed to understand and divine the difference between what is really beautiful and true, and what is not, there would be far less stupid, senseless, and degrading indulgences in all kinds of luxury which the untrained mind regards as beautiful. A rich woman decks herself out in diamonds and other precious stones, heaps on her body yards upon yards of satin

and silk and trimmings of various kinds. The true artist soul revolts against all this, because it does not necessarily mean that a beautiful result has been attained. A wealthy man will cover his walls with gorgeously framed paintings. The true eye of the artist, which cannot be deceived, will turn from them with coldness and disapprobation ; the gilt frames are an offence, the pictures an insult, to his trained mind. But the owner of them, like the woman in jewels and rich apparel, is under the impression that they are beautiful, because neither by education nor natural feeling can he detect the world of difference which exists between the true and the false, the beautiful and the ugly.

In writing upon health, I cannot, then, altogether ignore the claims of beauty. Beauty cannot exist with disease. A person suffering from some forms of disease may look interesting, and at rare moments, and under special circumstances, perhaps even beautiful ; but, in the large majority of instances, and as a general rule, disease and beauty are antipathetic. A healthy person may not always possess the particular attributes that constitute beauty ; but a beautiful child or man or woman will nearly always possess health. The ancient Greeks, as a nation, understood this combination

of health and beauty; and, for generations of their existence, they carefully cultivated both in their growing boys and girls, and produced, as a consequence, the finest type of human being the world has ever known. The English of to-day are beginning to follow their example, especially in regard to the physical education of girls and women. We have a far higher standard of health all round, far greater understanding of the laws of health individually, and far more reverence for our bodies than our forefathers had.

The more enlightened we become on scientific matters generally, especially on physiology, the greater will be the increase in beauty, health, and longevity; and we may hopefully look forward to the time when such terrible diseases as consumption, cancer, madness, and small-pox will be triumphantly stamped out from our midst. We must begin to look upon all disease as a physical sin,—a sin committed against the welfare of our bodies; just as a moral sin, with all its consequences, is committed against the well-being of our souls. We must begin, as Dr. Oliver Wendell Holmes says, to treat certain diseases a hundred years before the patient is born; for only by so doing can we successfully deal with them, and overcome them.

Yes, we must each of us become our own physician; and regard it as a solemn duty, or sacred responsibility towards the human race, to eradicate, by care and attention to the physical details of life, the many seeds of disease which lie dormant in our constitution, and which by carelessness and ignorance are often allowed to spring into a baleful activity, that poisons the current of life and of true happiness. But this great and splendid work can be accomplished only by men and women working together; by boys and girls being brought up to have a reverence for the bodies which frame their immortal souls.

We all desire happiness, we all work for it in our different ways; we indeed, in a measure, live from day to day to attain it. But happiness can never be reached, nor even approached, where disease has taken possession of the physical frame. It is only by triumphing over disease that human beings will come nearer the precincts of happiness. Disease *per se* is ugly, nay, repulsive; and although it excites all our feelings of tenderness, compassion, and pity, yet we would much rather that it did not exist. We should be devoured with the desire to get rid of it, and should look upon our efforts to do so, not only as a duty we owe

to humanity and the coming race, but as a most sacred religious obligation. By freeing the world of disease, we shall be doing homage to our Creator, and reverencing His intentions towards us. It is only by our own ignorance, self-indulgences, and follies, that physical sin has entered the world. God never intended it. Therefore let us disperse the clouds of ignorance, struggle against our self-indulgences, and free ourselves, once and all, from the follies which produce disease and premature death.

CHAPTER II.

CONSTITUTION, NATURAL TEMPERAMENT, ETC.

EACH person is born into the world with a certain constitutional diathesis, with which he journeys through life, though it often becomes modified by the conditions into which he is thrown, the circumstances by which he is surrounded. At birth, the constitution is both special to the individual and hereditary. The *special* quality of his constitution is the stamp of his physical originality, differing more or less from every other human being's, just in the same way as the features of his face do. This self-bred constitution, if I may be allowed the expression, may be either strong or weak: it may be easily influenced by outside circumstances, or hardily resistant of them; but indissolubly connected with it is that part which he has inherited from both parents,—that part which itself has been modified, moulded, influenced by previous generations and collateral branches

of the same family. We are the physical product of countless generations of human beings, with all their varied and various characteristics of bodily structure, peculiarities of temperament, disposition, and morbid phenomena; and our comprehension stands in awe before the wonderful versatility presented by the human race, also before the idea of its everlastingness. The same, yet different, are the numberless millions which have peopled the earth from the beginning.

The constitution of an individual is not dependent altogether upon any special development of muscular tissue, integrity of nervous force, soundness of organic structure. It may be influenced by these, and is; but it is an innate, independent vital force which governs and controls the body through the physical vicissitudes of life. I would give a simple instance of this. A person, apparently healthy in every respect, with good muscular development, sound digestive and respiratory organs, and excellent circulation, environed by every condition favourable to a long and healthy life, comes by accident, or otherwise, into contact with a friend or relative suffering from an infectious disease. He takes it, and dies. Another person, weakly from birth, with scarcely a sound organ in his body, always more or

less suffering, will also be brought into contact with the same infectious disease. He is not affected by it in the slightest degree, and may even nurse the patient through his illness to the end. In the former case, the individual, although sound and healthy in every respect, possesses a constitution which cannot resist diseases of an infectious nature; whereas the latter, although bearing a burden of ill-health along with him through life, possesses a constitution which is able to overcome and resist such forms of disease. Thus each one's constitution is peculiar to himself; and, with our present limited knowledge, we cannot lay down any hard-and-fast rules concerning what we know of it in the abstract. At the same time, we must not be blind to the fact that it has been owing to our gross ignorance and neglect of constitutional diatheses or tendencies that more stringent measures have not been taken to stamp out certain classes of disease that have, in one form or another, taken a terrible hold of mankind. Consumption, scrofula, nervous disorders, and cancer are amongst the most pronounced of these; and their present prevalence shows but too painfully our helplessness and ignorance. Ignorant are the large majority, because those who know keep what information they possess mostly to themselves; help-

less, because we fail in courage to speak the truth when we do know. If only physicians, and men of science generally, were to speak with the authority which the knowledge of scientific facts ought to give them (however much the truth might be distasteful, as it too often is, to the general mass of mankind), disease and the causes of disease would run a far better chance of speedy elimination than is possible at present, where the truth is hidden from the light of day.

I am of opinion that the constitution may be more profoundly acted upon and more successfully managed during the first ten years, "the seed-time of life," as Dr. B. W. Richardson aptly calls these years, than during the same length of time at any other period. The constitution, or natural disposition, or by whatever other term we choose to call the same thing, is a variable quantity in infancy and childhood. It has to be estimated, watched, judged, catalogued. This is a duty of parent and physician. Some parents, very few I am bound to admit, do this almost by instinct, if with no actual scientific knowledge. They anxiously watch developments, and estimate the sources of strength and weakness. Many lives have been as physically ruined during these first critical years as

if the parents had deliberately set themselves to accomplish such an awful result. Especially is this the case with the children of very poor people, of the proletariat class, who in early youth have burdens put upon them which their tender and impressionable system is little able to bear. Who has not seen a small and delicate-looking child, of some ten years of age, staggering under the weight of a large and heavy baby? It is a common sight in the poorer quarters of our cities. I have known lifelong deformity, curvature of the spine, result from this practice in childhood. And yet the parents are totally ignorant that their child's constitution is being profoundly modified by what seems to them a very simple and natural thing; and, if the risk is pointed out, they cannot believe it. A girl-child who would refuse to help her mother in this way, from a physiological instinct which warns her against the bearing of heavy weights at her tender years, would be looked upon as an unnatural, naughty child.

Rebellion in children against certain prescribed rules and regulations is very often the instinct of self-preservation in lively action. Parents are often apt to think that children rebel against their authority because they are self-willed, naughty, idle, and

thoughtless. It may be so in some few instances ; but, where there is no radical viciousness of nature to account for a child's revolt against doing certain things which are repugnant to it, it is due to the deep-seated physiological instinct, which is strong in every one of us, and is an important part of our constitution that has to be reckoned with.

During the first years of life, growth is extremely rapid ; a child will grow twice his size in two or three years. He will be double the size at six that he was at three years of age, and very often twice the size at fourteen that he was at six. After puberty, the body, both in boys and girls, grows less and less slowly, until complete growth is reached about the age of twenty-five. But it is during the rapid growth of early childhood, when every part of the system is undergoing expansion and structural development, that the physical health should be carefully guarded, and the constitutional peculiarities of each child studied and assisted. I have seen delicate babies, struggling through numerous infantile maladies, which, by the great care and attention given to their constitutions by skilful physicians and devoted and judicious mothers, have turned into strong and healthy children. And how far too often, alas ! have I not seen the fine and lusty infant, apparently

endowed with a splendid constitution at birth, gradually become, by the ignorance and carelessness of its parents, a poor, weak, ever-ailing child, in whom the seeds of disease are slowly being sown ! Thus the constitution can be made or marred during the early years of childhood. That part of the constitution which is self-bred, and that which is inherited, can be modified and influenced by care, attention, and proper knowledge. We ask only that childhood should be respected, that it should be given a fair chance of developing into healthy and active adolescence, and thence into strong and vigorous manhood and womanhood, capable of accomplishing the world's work and fulfilling its destiny.

The so-called Anglo-Saxon race presents many varieties of temperament, owing, probably, to the great intermixture of nationalities which has taken place in its midst during the last thousand years. The Saxons, the Scandinavians, the Danes, the Romans, the Normans, the Celts, the Scots, have each and all left the impress of their constitutional and temperamental characteristics upon the English as a nation. Individual families amongst us can trace the dominant qualities proceeding from one or other of the above-mentioned sources. With the excep-

tion of the Americans, there are probably few nations which have so mixed an origin as the English; and, consequently, the types to be found in our country are numerous and varied. The French call us original and eccentric, and harbour the idea that we are melancholy and phlegmatic; but, in comparison with the excessive phlegm of the Teutonic nations, with their dull, slow, and heavy temperaments, the English, as a people, are liveliness itself.

As many writers have pointed out, there are four kinds of temperament, under one of which, roughly speaking, most human beings may be classed,—viz. the nervous, the sanguine, the bilious, and the phlegmatic. Besides these, there is the *mixed* temperament, which may combine two or more of the above characteristics. The *Sanguine* variety of temperament is generally represented by the possession of animal spirits, and a tendency to fulness of body, which may degenerate, towards middle age or later on in life, into redundancy of flesh. The men, women, and children, coming under this category, are, in the great majority of instances, tall and finely-formed, with very fair complexions, beautifully tinted or florid. The hair is of a golden, ruddy, or bright brown colour; the eyes blue or a

lively brown; the lips full and red. The teeth are nearly always good, white and sound. The temper is quick and lively, even hot and violent under great provocation; but very seldom sulky or revengeful. There is not very much tenacity of purpose, great perseverance, or sustained ambition in those who possess the sanguine temperament; but they are ever ready to undertake new projects, to throw themselves into forlorn causes with a generous enthusiasm, and to abandon them when they meet with great obstacles and discouragement in others.

These people do not make deep thinkers or great scholars. They like to be actively engaged, and to be on the outlook for new sensations. Clever and superficial, warm-hearted and helpful, they buoy themselves and others up for the time being, but they quickly grow weary. The most beautiful women, those who have made a lasting impression in history and literature, have been probably the women who possessed this temperament. The nature is generally joyous and pleasure-loving; the intellect quick and receptive, but not profound or far-reaching; the emotions are lively and sympathetic, but without much subtlety or depth; the passions are not dangerously developed, and, although they may overleap the limits of prudence in some

instances, can be generally very well kept under control. People of sanguine temperament generally fall easy victims to fevers and infectious diseases, and very often have them in their worst forms. They are constitutionally prone to blood disorders, and suffer from rheumatism, gout, skin complaints (boils, carbuncles, abscesses, and scaly eruptions), and scrofulous affections. The unmixed sanguine temperament may possess talents of a high order, but rarely genius. If allied with the nervous temperament,—in which case we might designate it the nervo-sanguineous,—it probably forms the very highest type of nature to be found in the human being, as represented by such men as Cæsar, Shakespeare, Goethe.

The *Phlegmatic* or *Lymphatic* temperament, as Dr. Strange says, “appears to be a degenerate and low type of the sanguine.”* We all know its salient characteristics. The pale, muddy, and unhealthy-looking skin, very often covered with blotches and pimples; the lustreless blue, grey, or hazel eye; the flaccid muscle and flabby fat; the hair flaxen, straw-coloured, light or even dark brown, without sheen or depth of tone; the movements of the body slow and languid; the expression

* “Seven Sources of Health,” by William Strange, M.D.

of the face vacant, dull, at times sulky and even brutal. The qualities and virtues of the phlegmatic individual are generally of a negative order ; his vices and failings often of a most positive order. Such types will be found largely represented in Madame Tussand's room of horrors. Physically, they are seldom or never beautiful ; morally, they are deficient in all those senses which aspire after active goodness ; mentally, they are intellectually deficient ; spiritually, they are inaccessible to any religious influence. Taken altogether, the purely phlegmatic temperament is not an interesting or an attractive one. The diseases to which it is most prone are those which involve disintegration and degeneration of various tissues ; strumous swellings and tumours in the muscular substance ; osseous and periosteal growths ; rickets, glandular enlargements, such as goitre ; cancer, anæmia, sub-acute inflammations, skin diseases, decay and loss of the teeth, sleepy abscesses, and ulcerations. There is a tendency to imbecility, but not to mania ; and very often a low form of cunning is found in such natures, which is not to be confounded with sharpness of wit. A large proportion of our criminal and vicious population would be found to possess the purely phlegmatic or lymphatic temperament.

The *Bilious* temperament, represented largely by the French, Celtic, and Southern races, is energetic, talented, tenacious of purpose, and melancholy ; the latter often degenerating into morbid hypochondria. The complexion is generally dark or sallow ; the eyes brown or hazel, deep-set, expressive ; the hair black or brown, coarse in texture, abundant ; the body is thin and angular, its movements abrupt and awkward ; there is very little superfluous flesh upon it, and but a small amount of adipose tissue. The character and nature of those possessing the bilious temperament, if not altogether sympathetic, are very often compounded of heroic and self-sacrificing qualities. Such temperaments fight for national independence, throw themselves into great unpopular movements, devote their lives to their fellow-creatures *en masse*, but not to any particular individual. They are capable of deep enthusiasms, which are not easily extinguished ; they conceive magnificent projects, which are not lightly abandoned ; to gain their ends, they will be capable of acting with duplicity, treachery, and even cruelty ; such natures can be revengeful, unrelenting, ambitious, and scheming. When mixed with the nervous type, it becomes the bilio-nervous, which constitutes a very high order of temperament amongst human

beings. The diseases to which the bilious temperament is most prone are various forms of indigestion, liver and bowel complaints. Cancer or ulceration of the stomach, gall-stones, acute inflammation of the liver, obstruction of the bowels, hæmorrhoids, fistula, dropsy, kidney disorders, melancholia leading to suicidal or homicidal mania,—are amongst the diseases which are the most common. As a rule, the bilious temperament does not shorten life, unless it is attacked by one of the more serious forms of disease mentioned. But the bilious individual nearly always thinks he is in a dying condition; he is not an easy companion to live with; and, although solitude is not good for him, yet his temper is generally so trying, and his health such a constant matter of anxiety to him, that it were better if he remained single, and did not marry. The same may be said of the woman of bilious temperament.

The *Nervous* temperament implies the predominance of the nervous elements over the more purely animal portion of the system. The cerebro-spinal system, the motor-sensory nerves, and the sympathetic nervous centre are all in a high state of development. As Dr. Strange says: "To this favoured class belong most that are endowed by

Nature with a great degree of the higher and more subtle of the intellectual powers. Wit and critical acumen, with sparkling fancy, are theirs ; whilst they possess a facility of acquiring knowledge, and of apprehending the obscure and intricate bearings of difficult problems, which distances all competitors. . . . In the female, this temperament follows very much the same direction as in the male. There is the same delicacy of organisation, quickness of imagination, and fervour of the emotions." Undoubtedly, the *nervous* temperament is the highest of the four unmixed types, being at once the most intellectual and the most emotional. It is also the most interesting. The musical, artistic, literary, and poetical natures would generally come under this classification. Dr. Winter describes the appearance of persons endowed with the nervous temperament in the following words : "The bodily frame is often very slender and delicate ; the hands and feet small ; the features of almost feminine delicacy, and the complexion either pale or delicately tinted with pink ; the eyes are quick, large, and lustrous ; the type of the head round, and generally well-balanced."

One might add to the foregoing graphic description that the features are mobile and alight with varied

expressions, very often producing the impression of rare beauty upon the beholder. Keen sensibilities, exalted imagination, great sensitiveness of disposition, and morbid susceptibility to the opinion of others, are also some of the most noticeable traits. Allied with an excessive irritability and quickness of temper may be found a sweet and pliable nature, which only requires judicious management to overshadow the defects of temper. Such temperaments are enthusiastic, excitable, impulsive, and ardent, generally more true and devoted to a cause into which they throw themselves than the sanguineous type. They make good martyrs, and will face death in its cruellest and most horrible forms, with a smile of joy upon their countenances and resignation in their hearts.

Keenly alive to religious influences, those of the nervous temperament make excellent proselytisers and examples of self-discipline and self-sacrifice; they learn how to renounce and to become ascetics, and rarely repent the path they have chosen. Such natures, when not softened by tenderness of heart and benevolence of disposition, have very often become monsters in their religious fervour. Of such stuff were the Inquisitors of Spain and Venice formed. As their virtues may be of a higher quality than

those of the three other types, so may their vices be of a worse quality. They will commit crimes, not from premeditation and natural viciousness of disposition, like the criminals of the phlegmatic temperament, but in moments of ungovernable fury. Their remorse will be as genuine as their passion was unbounded. In moments of depression and reaction, they may throw themselves into a profligate and debauched mode of life, from which their higher nature will again and again save them, but which may become an overmastering temptation, too powerful for their gradually weakened wills to resist.

Endowed with genius, these gifted personalities may make themselves loathed or worshipped by the rest of mankind. Their vices, if they give rein to them, will make them hated by the average mediocrity of the world, who are incapable of judging what they cannot understand; their rare qualities will make them loved and followed by those who will try to find excuses for their follies and their vices. How many bright and beautiful spirits, endowed with the highest intellectual attribute, that of genius in any of its forms, do not rise before the mind's eye to represent this attractive and fascinating type! St. Paul, St. Augustine, St. Francis, Father Damien, Cardinal Newman,

St. Elizabeth of Hungary, St. Catherine of Sienna, and many other saints and martyrs, male and female, of the Catholic Church, represent the religious type of the nervous temperament ; whilst nearly every poetical, artistic, and musical genius of all times will come within its category. Such forms as Byron, Shelley, Alfred de Musset, Edgar Allan Poe, Charles Lamb, Keats, Chopin, Mozart, the three Brontë sisters, Jeanne d'Arc, Elizabeth Barrett Browning, Turner, Michael Angelo, Heine, Pascal, and many others, too numerous to mention, will rise in one's memory ; and, although the characteristics of each of them may have been somewhat modified by admixture with the sanguineous or bilious temperament, or both, yet, broadly speaking, they must be classified under the nervous variety. Without possessing genius, all bright, quick, talented, enthusiastic persons, male or female, will come into this category, because in them the nervous system will be found the most highly organised and developed part of them. Although not possessing genius, or even the highest form of talent, they may become very akin to it by intense appreciation. Prosaic, commonplace natures cannot appreciate what they do not understand, and they rarely understand genius.

The diseases to which the *nervous* temperament is most liable are generally of a more interesting character to the physician than those to be found in the other three varieties of temperament. As a rule (although there are many exceptions, and notably amongst those whose names I have given as examples of the type), nervous people are healthier and longer lived than others. Their health is a matter of great consideration to them, and very often renders them egotistical and troublesome; but they manage to weather many storms which carry off their less fortunately endowed fellow-creatures. Nervous people generally possess a great tenacity to life, because they know how to enjoy life, although they may not always attain a state of equable happiness. Every moment of enjoyment is more keenly felt, and vibrates along the lines of memory with greater persistence, than with ordinary people, and thus the whole nervous system is retained in healthier action. It is true their moments of reaction are more intense, depression and despair more acutely felt; but even these sensations are more salutary to the nervous system, when of not too long duration, than a condition of phlegmatic quiescence.

The nerves and the brain are the means by which

human beings communicate with the outer world, by which they receive impressions, regulate their emotions, command their sensations, and in reality control their whole lives. The more they are brought into use and activity, the greater will be their healthiness and vitality. The man or woman, whose brain and nervous system generally are allowed to exist in a sluggish condition, is more prone to a chronic state of ill-health than your highly-organised nervous being. The latter feels pain more acutely, and is less tolerant in bearing it, being by nature impatient and restless; but she rallies out of it sooner, and it leaves no deep impression upon her afterwards. When they are enjoying really good health, life is full of supremely happy moments with your men and women of nervous temperament. They drink the cup of enjoyment to the dregs, and are better able to bear the struggles and disappointments which life may have in store for them from time to time. If they scale the heights of infinite happiness, they often make acquaintance with the depths of misery. And yet, with all the capacity to feel more keenly joy and pleasure, suffering and sorrow, they weather life's tempests with greater buoyancy and security than any other.

With some exceptions, the nervous temperament

does not fall an easy victim to infectious epidemic diseases. It has a tendency to resist them, and to have them lightly, and throw them off quickly, if it does succumb. But it is often attacked, and sometimes very early in life (in childhood and adolescence), with tuberculous affections of the brain, lungs, or bowels. We might say that diseases of the brain, heart, and lungs, or the Tripod of Life, as Professor Huxley designates these three organs, are those to which people possessing the nervous temperament are most liable.

In infancy and childhood, convulsions, infantile paralysis, nervous tremors, St. Vitus's dance (chorea), epilepsy, catalepsy, somnambulism, delusions and hallucinations of various kinds, may be noted amongst the morbid phenomena of disease exhibited by the nervous system; and here may be noted great intellectual precocity, forming the child prodigies who startle the world every now and then with their performances in one field or another.

Later on in life, hysteria, epilepsy, and various manias (kleptomania, dipsomania, etc.); different forms of paralysis of the brain or spinal cord, madness; bronchitis, phthisis, heart disease, and affections of the organic (or sympathetic) nervous system,—are also amongst those diseases to which

the nervous temperament is most prone. I do not wish it to be inferred that the diseases, which I have mentioned under the three other groupings, will not attack the people of the nervous type of organisation: they very often do so, because there are few human beings who can strictly be placed in either of the classes without modification. I have only given a broad generalisation as to the interesting question of temperaments; for, as a matter of fact, nearly all civilised human beings, especially in countries where there has been great variety of race origin, possess the mixed temperament, in which, perhaps, may be found one or other of the above types, as the dominant note of the physical constitution.

It will be clearly seen from the foregoing that the question of health and disease, either in the individual or in the family, is by no means an easy one. In judging a case, whether for the purposes of diagnosis, prognosis, or treatment, a physician must take all these points of constitution, temperament, physical organisation, and hereditary predisposition into consideration,—otherwise, he cannot form a fair and scientific opinion concerning it. Therefore, he must be rather more than a mechanical manipulator of the art of medicine: he must have

studied human nature, and studied it deeply from every available source,—in the hospital, in the world, in the family, in books ; he must be endowed with a philosophical as well as a psychological instinct ; and he must strike always at the root or cause of disease rather than at the various symptoms it exhibits. In this way only can the medicine of the future—preventive medicine—become the great and benevolent science that is to transform the world from a huge hospital into a fair and stately mansion. The medical profession may well be engaged in this Christlike work, for the salvation of whole classes of society rests upon the question of the prevention of disease amongst them. Means must be found to render certain callings less dangerous to health ; to insure the sale of only wholesome food ; to build houses on a sanitary basis, fit for the occupation of human beings ; and to bring recreation and amusement into the lives of vast numbers who now perish physically, morally, and spiritually for lack of them.

CHAPTER III.

CHILDHOOD.—YOUTH.

CHILDHOOD is the springtime of life. It should be made the happiest period of a human being's existence. A sad-faced, dispirited, suffering, disease-stricken child should confer more or less disgrace upon parents in particular, and society in general. A child's countenance should sparkle with the wine of joy, be lit up by the lamp of happiness, display its own certificate of health and vitality. During the first ten to twelve years of its existence, a child should be looked upon as an animal, whose physical constitution demands the first consideration from its parents. If the higher mental processes lie quiescent during that period, so much the better. My opinion is that parents alone—if they possess the right to be parents at all—should have the rearing of children during that most important epoch of life. It should not be left to hirelings—teachers, governesses, or tutors.

In the frantic struggle for life taking place amongst nine-tenths of the inhabitants of these Isles and other countries, parents shift their responsibilities from their own shoulders to those of others. Amongst the very poor, where the wolf of hunger is rarely on the wrong side of the house door, the little ones are turned out into the close alleys and lanes, to find what health and strength they may, and their experience of life on the pavements and in the gutters. The bigger children, small, pale, stunted, oftentimes deformed, and not seldom precocious in evil knowledge of the world, are made to look after the smaller children, and carry about the heavy babies. Between-whiles they sit for hours in overcrowded schoolrooms, where they are made the victims of our present strange and inadequate notions of education.

The parents of the middle classes, who, from being more respectable, more self-respecting, more ambitious, work hard and try to keep up appearances, equally cast aside their responsibilities. Children follow on one another very quickly; the nursery is full; the mother has very often to attend to her husband's business, as well as superintend cooking and the management of the house; the children are early sent to a cheap school (with the exception

of the eldest probably, who is kept at home to help the mother in the nursery and kitchen), to be got out of the way. For years of a child's life, the parents know very little of its constitution, character, nature, or disposition. When the children return, at the age of fifteen or sixteen, to the domestic hearth, they are more or less of strangers to their parents. But even then there is no time for the closely-related ones to become intimate with each other: the boys must be apprenticed to a trade, the girls must go out into the world to earn their livings. The parents have had no day-to-day study of their children's character and talents, and do not know for what they are particularly fitted. The boys and girls are too young, or have been too badly educated, to know themselves what they want or would like to do. They turn to anything which comes to hand, to relieve their parents of the burden of keeping them; and thus into the round holes in life are constantly being wedged the square pegs of humanity. No wonder there are so many failures on all sides of us! This moral, mental, and physical unfitness of human beings for their money-getting occupation in life is half the cause of the restlessness, discontent, unhappiness, and ill-health which are so

prevalent. Where is the joy in life when men or women are spending their existence in an utterly distasteful calling? It is death in life, and indirectly productive of disease.

In the wealthier classes of society things are not so bad. Mothers are better educated, and have a wider culture. They have glimmerings of a higher duty, and are more anxious to fulfil their responsibilities. But even here the nurse and the stranger governess, however kindly disposed and refined they may each of them be, have far too much control of the children. In some families a mother and father only see their children for an hour or two during the twenty-four hours. They consider that their whole duty is performed if a thoroughly competent nurse and a highly-accomplished, lady-like governess are obtained for them. They expect that these strangers shall instil into their children moral and religious views, shall look after their physical welfare, and train their intellects on the most approved educational pattern. Or, very often, the boys are sent early to one of the large well-known colleges, where they come into contact with nothing but male influence during nine months of the year; and the girls are sent to one of the fashionable boarding-schools, where they are cut off

from brothers and male influence for an equal length of time. When the brothers and sisters meet each other at holiday time, they are embarrassed and awkward with one another, and seldom care to join in each other's games. The boys herd with their boy friends and the girls herd with their girl friends. Thus the two sexes, instead of learning to know and understand one another, as they grow up together in the same home, with a similar teaching from both parents, are constantly kept asunder, and get false and ridiculous notions about one another. As far as schools are concerned—if these institutions are necessary—I do not think I am in favour of mixed education, though I leave myself open to conviction on that point ; but as far as the home is concerned I am thoroughly in favour of it when the parents are the guiding principle, the controlling force, of the schoolroom and nursery.

EDUCATION FOR THE YOUNG.

As far as I am able to judge, it seems to me that our system of school education, whether board school, high school, or private school, is conducted on a totally wrong principle. We have made superhuman efforts during the last thirty

years, at an enormous expenditure of public money, to educate the children of the country. Middle-class parents send their children to the high schools, working-class parents send theirs to the board schools or voluntary schools. Are the results such as social and educational reformers may rest perfectly satisfied with? Personally, I do not think they are. It is perfectly true that we should, in the words of one of our learned Church dignitaries, look upon an uneducated human being nowadays as a barbarian; but is the education that we are supplying to the boys and girls of this land the kind of education that is helping them to become capable citizens, and to occupy that sphere for which their particular faculties and intelligence fit them? If this question cannot be answered in the affirmative, then the words written by Mr. Herbert Spencer in his essay on Education, in the year 1861, will apply as well to the present condition of things as to that of a past generation. "Had there been no teaching," he wrote, "but such as goes on in our public schools, England would now be what it was in feudal times."

In any system or process of education, we have to remember that it is the aim of the teacher, or should be, to draw out and develop the individual

faculties or capacities of each child under his or her care. A system of instruction is not a system of education. Until the thoroughly natural and scientific system of education known as the Kindergarten (foreshadowed by Goethe in his "Wilhelm Meister," crystallised by the genius of a Pestalozzi and a Froebel) was introduced into this country, where, even now, it is not widely enough adopted, children were tortured, literally tortured, mentally, morally, and physically, by the system pursued to make them learn. Every day, for six hours, and sometimes more, the little heads and straining eyes were bent over the dog's-eared books, committing to the forced and weary memory nothing but a mass of absolutely useless rubbish. Are there not schools in our land where the same pernicious process is still in practice? There are hundreds,—nay, thousands. Mothers, if you want healthy children, with good brain power, if you think they possess natural faculties which may make them distinguished men and women in after-life, banish books from the schoolroom during the first ten years of their life; and after that, until they reach fourteen or fifteen, allow only their limited use. In childhood, education should be mainly conducted through the several senses,

that is, through those of sight, touch, hearing, and speech. Books are out of place, and should be used only by children during the hours of recreation, and for their amusement. Reading and writing are not the sole objects of education : they are only a means. One world-renowned genius, the Russian Tolstoi, has even gone so far, in his original ideas of educational reform, as to say that reading is no part of education at all, and that human beings might possess highly-developed faculties, and make very successful and prosperous members of a community, without a knowledge of this art. I do not agree with him ; but this I know, that we have made too much of it, at the expense of other and not less important acquirements. What is the meaning of the defective eyesight which is so widespread amongst our children, their contracted chests and rounded shoulders ? Learning from books. How is it so many children possess good mechanical memories for what they have learned, but are utterly incapable of using their natural faculty of observation and drawing any conclusions deduced from reason from what they have learned ? Because learning from books will teach them neither to observe nor to reason. And yet, even in these enlightened days, or what we are

pleased to call "enlightened," hundreds of schools, public and private, and the schoolroom at home, are conducted on the principle of educating or instructing by means only of books.

I think education should have two objects in view—the drawing out and gradual development of the natural faculties inherent in each one, and the preparation for future independence and usefulness. Is either of these purposes achieved in our present educational system? Rarely. In our schools, the classes are far too large. It is impossible for a teacher to make himself or herself acquainted with the fundamental differences that exist between thirty to forty children, and to take all their separate characteristics and idiosyncrasies into consideration ; and, even if the teachers were capable of doing this, they cannot act upon their knowledge. So much has to be achieved, a certain standard reached, in a given time, by both teacher and pupil. Every effort, intellectual and moral, is directed towards this end. The so-called education mill is set grinding, and the children are turned out intellectually as like as two peas. Take our girls, for instance. What are they fitted for when they leave the school boards and high schools in shoals every year? Some take to teaching, for which they

are in no wise fitted. Others flock into shops and factories; and, from their numbers and incapacity, lower wages and overcrowd the market. They have spent years in school, but have learned nothing which will be of any use to them in after-life. The capacities of children are so different, their predispositions so varied; yet, whether they show a distaste for book-learning or not, they are all submitted to the same mechanical curriculum. This is wrong. It should be the aim of parent and of teacher to find out the tendency and capacity of each child, and then the children should be grouped in classes and schools where their tendencies will be fostered and encouraged, their capacities drawn out and developed. Why should not girls, who possess high animal spirits, and a love for out-of-door occupations, be trained in gardening, poultry-rearing, fruit-culture, dairy-farming, and many other pursuits of the same kind? Such schools should be situated throughout the country, in the midst of green fields; and, as the children of town schools showed their distaste for the more purely mental part of education, they should receive a thoroughly practical one in the country schools. No girl who had undergone a complete training in any of the above occupations would be at a loss, when she grew up,

for a means of earning an honourable and healthy livelihood. We want to draft our town-bred boys and girls back into the country districts, to give them a love of the soil once more, and relieve our overcrowded centres of population.

Parents and teachers of the wealthier classes make the same educational mistakes. A child is compelled to learn modern languages, or the dead languages, or music, or drawing, or mathematics. Weary hours are spent in the acquisition of subjects which are oftentimes hateful to the child, because it has no natural capacity for them. Again we are face to face with wasted energy. A child's whole nature is oftentimes ruined for life by persistence in this wrong and, I might add, cruel system of instruction, for I cannot call it education. And when the child is diligent and industrious, desirous of pleasing parents and teachers, and with no marked originality of character, it will work away at the distasteful subjects, and very often break down with an acute attack of meningitis. If the child exhibit some originality of character, it will rebel, and will refuse to perform the tasks which it finds distasteful, by reason of the instinct of self-preservation already alluded to ; but, in this case, the child is punished for being idle and naughty.

Large classes, competitive examinations, or, indeed, any examinations, prize-winning, payment by results, forced teaching of subjects for which a child has no natural liking or capacity,—all meet with my disapprobation as a physician and a health reformer. What are the moral results of competitive examinations and prize-winning? Desirable neither to the child who is successful, nor to the child who fails. In the one it breeds conceit, vanity, self-approbation, and an unhealthy desire always to be first; in the other, the disappointment of non-success eats into the soul, and produces envy, jealousy, sullenness, and even hatred. Such a system is productive of nothing but physical and moral harm, not to mention the mental injury which results from the long and continuous strain of preparation. In a perfected system of education, examinations will be unknown and unneeded. They are no test of natural capacity, of the possession of genius, or of a high order of talent: they are merely a test, nowadays, of how much book-knowledge a girl or boy, man or woman, may have been able to cram into the memory in the shortest possible time.

During the first years of life, then, children should be allowed to develop and unfold simply,

naturally, healthily. They should not be left to nurses, nor sent to boarding-schools (unless these latter are conducted on home principles), but should be under the mother's care and training, where possible. If any sort of discipline is required to prepare them gradually for more serious application later on, when the physical system is established, three hours' schooling every day at a Kindergarten, or by a governess at home, educating on Kindergarten principles, is all that is necessary. Children's brains are generally active, and, if properly guided, will under proper management take in much more during those three hours than in six hours. The three hours should not be continuous, but should be broken up with intervals of rest and play. It has been found by a series of experiments, carried on by Dr. Leo Burgenstein, on the fluctuation of brain-power of schoolchildren, in his country, that there was fatigue and gradual exhaustion of organic material after three-quarters of an hour's application.* And this the learned doctor found to be the case when the children had had two intervals of rest, of ten minutes' duration, during the three-quarters of an hour. The last period of

* Dr. Leo Burgenstein's paper on "The Working Curve of an Hour," Congress of Hygiene, August 1891.

application at the same lesson always showed the least working power, and mental weariness. From these investigations, he came to the conclusion that even the easiest lessons should never be extended beyond the limits of three-quarters of an hour.

Another fact I should like to point out to mothers with regard to their children. Slowness to learn, and even apparent want of interest in learning, should not always be taken as a sign of intellectual incapacity, dulness, stupidity. In numbers of instances, the organic functions of the brain remain in a state of quiescence for many years, and only burst into activity with manhood and womanhood. In other instances, where the child has shown a remarkable brain capacity early in life, mental dulness will be found later on. Parents have no reason to despair when they find their children not taking very much interest in intellectual studies : such children have not unfrequently blazed later on in life as geniuses. As a matter of fact, genius rarely shows its powers in childhood, although we know of some few instances to the contrary. Childhood and adolescence seem to be its period of incubation, and the brain is, as the French say, *reculant pour mieux sauter*. Again, many children's brains have been stunted and deformed by too early and too

continuous application. And, moreover, moulded on the same plan as they are, and must necessarily be, in large classes—and, with horror I say it, in some schools two or three classes going on together in the same room—any tendency to originality is entirely lost. Originality is the salt whereby the weary sameness, the hopeless mediocrity, of the bulk of human beings is rendered a little less weary and hopeless. I have a shrewd suspicion that, since the craze for instruction has set in, human beings are becoming more like one another, less original, less tolerant of originality, than was ever the case before. Amongst the elder generation, not so examination-ridden and brain-mangled as ourselves, originality of character and fearlessness of thought, which is the highest form of originality, are far more noticeable than amongst the present generation. We seem to have a terrible fear of saying or doing anything different from our neighbours; and, if we are forced by circumstances to occupy a somewhat original position, we do so with an apologetic attitude. The schools and colleges have a tendency to turn us out all too much cut after the same pattern, and we follow in one another's footsteps like a drove of stupid sheep. If we stifle originality, we shall often kill the germ of

genius. An original child is undoubtedly a great trouble to parent and teacher ; but, for humanity's sake, do not let us harbour the idea that a child is necessarily vicious and sinful because it is different from the rest of the flock. On the contrary, it may be the one redeeming member of it, the lump of salt which savours the whole.

PHYSICAL EDUCATION.

Children are naturally active,—that is, if they are so muscularly well developed and free of disease as they ought to be. That is one reason why they ought not to be kept too long in one attitude, too long in repose. The muscular system cries out for action. Play, in the form of various games, should be encouraged, and should be taught. Children do not know always how to play to the best advantage. Very often their games are without meaning, or ill-directed, or tend to develop one part of the system more than another, or at the expense of another. Therefore they should form part of their educational training. A great number of faculties may be developed by means of games: viz. rapidity of judgment, keenness of perception, accuracy of reasoning, quickness of mental calculation, correctness of observation. And the development of these faculties

will, of course, react upon the more intellectual training they are receiving at the same time. Whether summer or winter, games should always take place in the open air, and never in the same room wherein lessons have been conducted. As in my opinion all children should be allowed to grow up in the country, and not in crowded cities (or at least six months in every year should be passed in the country), it is scarcely necessary to say that fields and meadows are the best places for games. There is no reason in the world, excepting the fear of breaking through a conventional barrier, why girls should not learn cricket in childhood, in the same way as their brothers. It is not a brutalising game, like football ; nor is it in any way conducive towards the formation of unfeminine habits. It is essentially a healthy game, and brings nearly all the muscles of the system into equal use and activity.

At least from three to six hours every day, especially during the summer months, should be passed in the open air. In fact, the education might be mainly carried on under the blue sky. Botany, natural history, the elements of geology, physical geography, gardening in all its various forms, might be learned in this manner. No

poring over dull books, but poring over the secrets that Nature has to reveal in all her rich abundance, learning them at first hand from the heart of Nature herself,—this is education. Recreation? Why, childhood would be one long hour of recreation, sucking in knowledge like a sponge sucks in water, without mental or physical effort, and minus all the heart-sickening, the mind-distracting elements which now confront the standard-haunted, book-beset girl and boy, who are, withal, totally ignorant of the commonest natural phenomena, and to whom the primrose is a flower and nothing more.

I wish to emphasise the importance of all physical exercise, whether in the form of games or gymnastics, taking place, as far as possible, in the open air. During inclement weather a shed in the playground, free on all sides to the air, might be used; or a large light room, with plenty of open windows to let in the fresh air, and provided with outlets for the exit of the vitiated atmosphere, might do. The muscular system, when in action, is undergoing rapid oxidation, and the products of combustion—viz. urea, water and carbonic gas—thrown into the air, gradually contaminate it, and, if respired again, give rise to languor, depression, fatigue, headache, faintness, and many other distressing symptoms. Exercise,

resulting in this way, does more harm than good, and is physiologically to be discountenanced. Open-air exercise, unless excessive, rarely produces any of these results.

There is a crying need for proper ventilation in classrooms. It is impossible for a child's brain to work efficiently when it is breathing an impure, exhausted atmosphere. Open windows do not always mean effective ventilation: they very often mean shafts of cold air rushing into the close and heated rooms, more often than not producing other ills, such as cold in the head, sore throat, ophthalmia, neuralgia, toothache, stiff neck, cough, etc. But every child should, in a proper system of ventilation, be provided with from 800 to 1000 cubic feet of air, which should be renewed every hour; and the atmosphere should never be allowed to contain more than .2 per thousand of carbonic acid gas. If it rises to .6 per 1000 volumes, Dr. de Chaumont has pointed out that the air becomes perceptibly impure. He showed that .2 volume of carbonic acid per 1000 is "the maximum amount of respiratory impurity admissible in a properly ventilated air space." Dr. George Reid, medical officer of health for the rural district of Stafford, "carried out a systematic inspection of the elementary

schools within his jurisdiction, and in each case made a careful analysis of the school air, the samples being taken, as far as possible, after the children had been in school for some hours. In by far the majority of instances, the volume of carbonic acid present, per 1000 volumes of air, was found to range between 2·039 and 3·708.”* Any one reading this can see that the figures given are enormously in excess of Dr. de Chaumont’s average, and must render the children liable to numberless risks to health. All schoolrooms, whether in private house or school, high school or board school, should be cleared of children and teachers once in every hour, and thoroughly ventilated for the space of at least fifteen minutes. During this time, the children might be playing or exercising their muscles in the open air.

No evening work should be allowed, nor instruction of any kind be carried on by artificial light. More than half the myopia (shortsightedness), hypermetropia (longsightedness), partial squints, and astigmatism, that are so common amongst children nowadays, is due to exercises being written, sums worked out, maps drawn, and lessons learned from books, during the failing light of evening or

* *The Lancet.*

artificial light of some kind or other. At the same time, the growing body is kept in an unnatural stooping position, the healthy action of the heart, lungs, stomach, and liver interfered with. During the summer months, and when the evenings are long and light, children should be playing out in the open air, and be in bed at nine o'clock. During the winter months, they should be at play in a warm, brightly-lighted (though not by gas), well-ventilated nursery, or other room, and be in bed at eight o'clock. As far as growing childhood is concerned, every child should be allowed to sleep from ten to twelve hours. This is a most important point, for it must be remembered that children, during their waking hours, are far more active, after the rate, than are adults. Their little bodies are constantly on the move ; and restraint, during the waking hours, is always more or less irksome. This natural activity of the growing, healthy body should always be taken into consideration by parents and teachers ; and inattention during lessons, accompanied by fidgety movements, should be a sign that the muscular system requires change from rest to activity. I advocate long hours of sleep, because the growing body needs the rest which it cannot get, as a general rule, in the day.

During sleep, every part of the system is repairing itself, with the least amount of physical expenditure and vital force. Of course, the sleeping-room should be at the top of the house, and should be large, lofty, well-lighted, and well-ventilated. From October till April, a fire should be kept in the bedroom during the sleeping hours, and a uniform temperature of from 50° to 60° Fahr. maintained. In this way many childish ailments would be avoided, which are often caused by children leaving their warm, bright playing-room, in probably a state of perspiration, and going into a cold room, where the damp chills of a foggy winter day still linger in the atmosphere, after the windows have been closed at nightfall. A fire also helps to ventilate the room, and to keep the air purified. Separate beds should always be used; and children ought not to sleep, excepting on rare occasions, with grown-up people. Their beds should be moderately hard (horsehair mattresses on springs are the best), the sheets of cotton or fine wool, the pillows not too soft or raised up. A child's head should lie almost on a level with its body, so that the circulation shall be equally distributed throughout the body during sleep. The blankets should be warm and light, and heavy coverings of any

kind should be avoided. It is not a bad plan to warm a bed with hot-water bottles, or the old-fashioned warming-pan, during the winter, in order to prevent a child from keeping awake with cold feet and hands. Wherever there is any tendency to defective circulation, to weak action of the heart, sluggishness of the skin, liver, and kidneys, this plan of warming the bed should be invariably adopted, in order to prevent chilblains, sleeplessness, skin disorders, and chills on the liver and kidneys. The hot-water bottles should be removed when the bed is thoroughly warmed.

Grown-up people should not sleep in the same room as children, excepting in the case of very young children—up to three or four years of age; but, for purposes of supervision, they should sleep in a room leading from the night nursery. There should be the least possible amount of furniture in the sleeping-room, and what there is should be of the plainest and simplest description. The floor, if not parqueted and polished (but not so much as to render it slippery), might be laid with linoleum, which has a shining surface, and can be thoroughly cleansed once a week. The walls should be flattened and painted with some bright pretty colour, such as terra-cotta, pink, or pale blue, which do not contain

any poisonous dye. Hangings and curtains of all kinds should have no place in a child's night nursery, and a high fender should surround the fireplace. If the children are attacked with measles scarlatina, whooping-cough, etc., the room as I have described it will need very little preparation for conversion into a sick-chamber.

When we think of all that children require, to throw off the effects of hereditary evils, physical and moral; to establish their health and constitution during the first ten or twelve years of their existence; to enjoy freedom from the present errors of education; and to have greater physical advantages than are allowed them at present, we stand aghast before the state of things that child-life reveals to us on all sides, and in nearly all classes. Although we have made prodigious strides in the right direction since the time when England's indignation was aroused by the pictures of Lowood in "Jane Eyre," Dotheboys Hall in "Nicholas Nickleby," and the pathetic picture of little Oliver Twist in the workhouse, yet we know that much has still to be effected before child-life can be rendered all that it should be. We must still feel humiliation at our impotency, anger at our ignorance and prejudices, when we think of the vast numbers

of children who are crammed in our schools with learning that can be of no earthly use to them afterwards ; of the long hours spent in acquiring this useless stuff ; of the overwhelming size of the classes which one, or at most two, teachers have to manage ; of the examination craze, which still reigns in all its furious folly amongst us ; of the ill-ventilated, stuffy classrooms ; the inadequacy of the physical education ; the want of fresh air that children suffer from ; and their wofully deficient home accommodation,—the close sitting-room or kitchen, where all the cooking is done, the still closer and overcrowded bedroom. Can we be surprised that children easily succumb to complaints of various kinds, amongst which nervous disorders seem to be on the increase ? We can understand the meaning of the figures given by Dr. Francis Warner, who made observations on 50,000 school-children, and found that nearly 10,000 of them were physically defective in one way or another.* This, of course, is a deplorably high percentage, and ought not to exist in a civilised community. Our duty as regards the future of the human race will not be accomplished until every child born into the

* Paper read by Dr. Francis Warner, at the Congress of Hygiene, August 1891, London.

world has a fair chance of health, happiness, and longevity ; and until one defective child in every five will be regarded as a disgraceful fact, reflecting upon our much-boasted scientific progress, educational reforms, and civilising influences of various kinds.

ADOLESCENCE.—PUBERTY.

As the child gradually develops into the young girl or boy (and in this little book I am more especially addressing my remarks to the female sex), the physical system undergoes certain changes, physiological and moral. In any sound system of education, these changes ought to be considered, and should modify and alter the system pursued. As a matter of fact, very little notice is taken of them by either parent or teacher. Girls are generally brought up in the direst ignorance as to the natural functions of their bodies, their physiological processes, or the simplest laws of health by which they should be regulated. Their ignorance has often been the cause of serious illness, and the quickening of the seeds of disease which, with due precaution, might have remained dormant in their system throughout life. For this reason, I recommend that a knowledge of physiology and of the

laws of health should be imparted, by duly qualified teachers, to every child in the United Kingdom. The laws of health are, in my opinion, the laws of God ; and if we, through ignorance or wilfulness, break these laws, and thereby injure our bodies, we are frustrating His purposes and wishes with regard to us, and retarding the progress of mankind.

A healthy and happy childhood will naturally have lain a good foundation for puberty, and the physiological changes in this instance will be wrought with very little disturbance to the system, especially if a girl has been properly prepared and educated. But in too great a number of cases we find that girls are left without any guidance or proper information ; and, consequently, they conceive the most erroneous notions, mingled with curiosity, aversion, or sentimentality, about a matter of simple physiology. This ought not to be. There is nothing so morally bracing as a knowledge of science and of natural facts ; and there would be few hysterical, unhealthy young girls if they possessed sound knowledge, instead of an armoury of false ideas obtained in underhand ways. Therefore, mothers and teachers, let your daughters and pupils know things of vital importance to their existence, in the natural course of their education.

When girls reach their teens, one of two changes is generally observable nowadays in most of them. They either become languid, retiring, timid, and awkward, and disinclined to make any particular efforts in their studies, or they are consumed with a passion for learning, and are always hanging over their books, and ardently desirous of passing examinations and competing with others. Some girls, at this age, neglect their appearance, and seem oblivious of everything that is going on round about them, excepting what is centred in their little world of school and books; others like to adorn themselves and think of their appearance,—in fact, devote their whole time and attention to their growing charms. Both are unhealthy signs. Modesty and refinement of feeling can be felt and exhibited without the distressing *gaucherie* which distinguishes so many growing girls, and has earned them the unenviable title of bread-and-butter misses. Shyness is not synonymous with innocence, nor awkwardness with modesty. But I believe that physically well-developed, mentally sound, but not brain-tortured girls are neither shy nor awkward, and that they are natural, unaffected, simple, and charming as girlhood should be, growing up and gradually developing in the world as a flower

unfolds its petals one by one under the warm and invigorating rays of the sunlight.

Let us for a moment glance at what is going on in hundreds and thousands of instances all around us, and then let us not be surprised at the presence of so much ill-health (if not actual disease) amongst young girls. After the age of twelve, a girl (and many of my remarks will apply to boys) generally begins to grow very rapidly, until she attains the height in a few years' time, sometimes by the age of sixteen, at which she will remain through life. This rapid growth is dependent on several causes, and is not observable in every instance. I must be allowed to digress for a few minutes on the question of height, which is more often than not hereditary, tallness running in families like the tendency to obesity, small hands, large hands, well-shaped feet, ugly feet, aquiline noses, curly hair, or any other physical idiosyncrasy. Many families are easily distinguished by some physical trait, that has been noted in generation after generation of the same breed. At the same time, it is a noticeable fact that those born and brought up in large towns, like London, Birmingham, Manchester, or Liverpool, do not attain the same height that those do who are born and brought up in the country, or even in

the suburbs of towns. And the average height of the inhabitants of towns sensibly diminishes as the people are crowded closer and closer together in the overpopulated quarters. This clearly shows that it is impossible for human beings to shoot up where sunlight is deficient and a vitiated atmosphere prevalent. Human beings, like all plants, require air and light for their growth. In the overcrowded parts of our large towns, they neither get the one nor the other. But God tempers the wind to the shorn lamb. If human beings grew tall (as in some instances they do) under such circumstances, it would mean a diminution of general strength and the early appearance of disease, against which they would have to combat all their lives, and which would be fatal to them sooner than later. Therefore, if the frame is otherwise well-developed and well-nourished, it is as well that it should not grow beyond a certain height in large towns.

It has been remarked by a very distinguished man, an artist,* that in the well-to-do classes of the community men and women (especially the latter) are much taller than they were—on an average, two inches taller than a generation or two ago. If this is a statistical fact, it speaks volumes for the

* Mr. du Maurier.

strides that have been made in physical education during the last thirty years. We know that the community is altogether healthier, therefore we must draw the conclusion that health and height bear some relation to one another. At the same time, we must not forget that "race" has a good deal to do with the question. The Celts, Latins, Mongols, and coloured races generally, are much shorter than the Anglo-Saxons, Teutons, or Scandinavians are. The inhabitants of warm climates, although they have the advantages of sun and air, and live chiefly out of doors, are shorter than those of moderately cold and temperate climates. The people of the tropics and the arctic regions are mostly dwarfs, showing that extreme heat and extreme cold are not conducive to height. Then, again, we must not lose sight of the fact that very tall people are not always proportionately very healthy and strong. The combination of health, height, and strength, may happen now and then, but it is rare. It is often noticeable that great height is accompanied by want of energy in the disposition, by physical languor and disinclination for active exercise, by stooping shoulders and flattened chests. The figure is not always well-proportioned to the height, and conveys an impression of physical

awkwardness of build and ungainliness of movement. Magnificent beauty may be obtained where great height, either in man or woman, is combined with perfect proportion of all the parts, and grace and harmony of movement. But it is extremely rare. As far as health goes, the smaller people and the moderately tall seem to have the pull over their bigger neighbours; and I see a physiological reason for it. A great expenditure of vital force is required by the system for growth, and unless the constitution, inherited and acquired, is strong and vigorous, there will be a tendency for the frame, beyond a certain height, to run to seed, because the amount of natural vital force has given out. Therefore, where there is a tendency in the growing members of a family to run to height, great and special care should be taken of the general health by parents and teachers. This is not always done, and the consequences are often disastrous for many years of a girl's or boy's life.

It should be remembered that, for every inch in height that is made by the growing girl or boy, a certain increase in weight should accompany it. And this is an excellent reason for ascertaining the height and weight at stated intervals,—say, two or three times a year. When the weight does not

bear proportion to the height, when it is either over or under what it should be, then measures should be immediately taken to find out the meaning of the decrease or increase, especially when it is marked. Dr. Boulton has made most careful investigation into the subject of the proportional height and weight of growing boys and girls, and has come to the following conclusions: viz. that, "whether a child grows two, two and a half, or three inches in a year, weight for height should be in each case identically the same, and all healthy children should grow broad in proportion to their height." Between three and four feet, Dr. Boulton finds that the increase in weight should be two pounds per inch, and between four and five feet, two and a half pounds per inch. Dr. Crichton Browne, Lord Chancellor's Visitor, recommends (for the purpose of finding out and tabulating these important vital facts) that every school and family should be provided with what he has denominated a life-chart, which should contain information as to height, weight, physical conformation, diseases acquired and hereditary, and so on, at various periods throughout life. By this means, we might arrive at some definite knowledge as to the health and vital statistics of the inhabitants of

these Isles, which would be of the greatest value to the sanitary reformer, the health philanthropist..

A girl generally grows quicker, after the rate, than a boy between twelve and sixteen years of age. And it is during this epochal constitutional change, which we have called puberty, that the system undergoes numerous modifications, and is influenced in a variety of ways. According as childhood is properly managed or not, so will puberty pass with or without noticeable phenomena of any kind; but it must always be watched, in boy or girl, with vigilance and discretion, by the conscientious mother. Now let us notice what generally occurs: The nervous system and the circulation, in conjunction with the general growth and development, are undergoing functional change, as well as actual structural growth. The brain and nervous system, in some cases, awake to a livelier activity; in others they become, after perhaps great activity during childhood, sluggish and inert. But there are many degrees of change to be observed between the two extremes of great inertness and great activity. But these important physiological changes and psychical phenomena are seldom taken into consideration by those who ought to make them their study; and it is at this season of a girl's (or boy's) growth that

intellectual and physical performances of a special kind are expected by ambitious parents and teachers, and their long-suffering children and pupils. Between the ages of fourteen and eighteen, the examination fever in our much-belauded system of education runs high. There is the class examination for prize-winning, and the public examination for certain certificates and honours. Nearly all preparation for both is made by means of books, note-taking, attendance on lectures, and the like. It generally means close and continuous application for many hours every day in classrooms, and during many months of the year. There is also a process of forcing, or "cramming," as it is popularly called, which goes on for several weeks before the actual examination takes place. For this purpose, special tutors and governesses are called into requisition. There is feverish activity of the mind, languor and depression of the body, although the girl or boy is often unconscious of either sensation, whilst the extra strain is going on. The restless, wakeful nights, the impaired digestion, the gradually curving shoulder-blades and narrowing chests, are allowed to pass unobserved, for the fever of ambition is running high in the blood, and, when the young are once bitten with that mania, everything else must yield before it.

In order to counteract the effects of our educational curriculum—which is applied to all children alike, quick and slow, stupid and bright, the mind artistic, the mind mathematic, the mind domestic, the mind poetic—gymnastic appliances, of some kind or another, are now introduced into many of the board schools and high schools. And the girls exercise with these for a certain time every day. In private schools, the daily walk, the constitutional, is taken often twice a day! In former times, only one hour a day was allowed, and was considered quite sufficient to throw off the stupor attendant on eleven or twelve hours' mental application. But, now, growing girls are allowed to take walks more frequently, besides participating in calisthenics and gymnastic exercises. This is an improvement; but, still, English girls are far from enjoying the freedom which their brothers have and they also ought to have, in order to bring their minds and bodies into healthy equilibrium one with another.

The following description of a growing girl's school-life is, I believe, from my own experience and from observations, pretty correct. Breakfast at 8, sometimes earlier, if the school is at some distance and has to be reached by walking, omnibus, or train. School from 9 till 12.30 or 1. Lunch or

dinner, as the case may be. During the afternoon, from 2 until 4.30, what are called the extra subjects of education are generally taken. These consist of music, drawing, painting, Greek, German, Italian, singing, and attendance at various 'ology lectures. Classes are also held for those who are preparing for the public examinations. Then comes the walk home, which many a girl, in her ardour to do well at her lessons, thinks a great waste of time, and will cut short, if possible, by getting into a public conveyance. Tea is taken between 5 and 6, and then preparation of lessons for the next day, which may take any length of time, from five minutes to five hours.

I can give the experience of two high-school girls of different families. Both were endowed, naturally, with good intelligence. One of them had the instinct of self-preservation, love of freedom, and dislike of restraint so strongly developed that a quarter of an hour was the utmost she would ever allow herself in the preparation of the lessons, which she looked upon almost with detestation. For this neglect she was constantly in trouble with school authorities, who, of course, wanted her to put her brain and body into the mill, and to undergo the same grinding as all the rest, and do them credit

at examination time. She never did. As far as lessons went, she was always at the bottom of the class, and was the despair of her teachers, one after the other. But her health was more or less good, although it would have been better under a different curriculum; and her girlhood had some amount of physical and mental freedom, joyousness, and happiness in it. As a woman, her life is a purely intellectual one; she gets her living by means of her brains, and her health is excellent. Her brains have been reserved for better use than that of being wasted in an unhealthy feverish pursuit of knowledge oftentimes useless, during the most physically and mentally impressionable period of life.

The other girl was what is known at schools as a good girl. She did credit to her teachers, and was always first in her class. She *never* wasted time in satisfying the natural cravings of her physical system. She suppressed them. She worked the treadmill of learning for ten or twelve hours every day all the year round, with the exception of the holidays, and even during them she studied and kept up her knowledge. She was considered a clever girl, a bright light. But I fancy that conscientiousness, perseverance, and a genius for drudgery were mistaken for cleverness and intelligence. She bore,

poor young girl, all the appearance of the "booky" student. Her forehead was large and bulky; she wore glasses over her shortsighted eyes—tried as no eyes ought to be tried at that age; she was lanky, narrow-chested, and round-shouldered; the head "poked"; and the expression of the face was not that of youth and happiness, as if the very joy of living ran in her young and healthy blood, but it was anxious and continually abstracted. She was awkward in her movements, abrupt in speech; kind-hearted and thoroughly good, no doubt, but so absorbed by the pursuit of prize-winning and examination-passing, of pleasing ambitious teachers and proud parents, that there was no time in which to learn that the education of life consists of far more than the mere accumulation of so many dry-as-dust facts, that seem in time to exhaust the sap of life itself, and to convert a human being into a hide-bound encyclopedia. A few years later on, when her bookshelves were filled with the prizes that she had gained, she succumbed to tubercular meningitis. After leaving school, she never showed any marked intellectual capacity in any direction. All her brain power had been used up during the period of life when she should have been allowing her physical system to develop and perfect itself. The

physiological strain was far too great; and, even if the tendency to tubercle were an inherent part of her constitution, it might have been kept in abeyance during a long life, had she been restrained instead of pushed on.

I have no doubt that the time will come when the Kindergarten *system* of education, now limited to childhood, will be extended to the end of school-life. All subjects will be taught in some such philosophical manner, and book-learning, learning by rote, will be more and more discarded. And another fact will also be made known to boys and girls, and that is that there is no such thing as "finishing" their education. All true education is a slow and lengthy process, ending only with life itself. And the aim of education, during childhood and adolescence, should always be directed towards fitting boys and girls to take their proper place in the world, the place for which they are most fitted by nature and natural ability. From a health point of view I see that many diseases and disorders might be prevented, if the minds of human beings were more at rest. But here is a girl or boy, fitted by nature to become a botanist or a naturalist, a physician or a navigator, an architect or a poet, a farmer or a manufacturer (and I make no difference

in occupation for either sex, if the natural talent is present), whose chances of happiness and health are impaired, and sometimes ruined, by the one being turned into a governess and the other into a clerk. It will be the business of the state educationalists of the future to look upon their system as in no wise perfect until they have given every child a chance of following in after-school days his or her natural bent. This can be accomplished only by small classes and by teachers endowed by nature for their occupation, and not pressed into it as a means of earning a livelihood. We want more enthusiasm and less conventionality in the art of teaching, and we want children to be looked upon as human beings, and not as successive droves of sheep.

PHYSICAL EDUCATION DURING PUBERTY.

As I have remarked above, the liveliness and activity of childhood are not always found during puberty. In some instances, we see a nature almost completely change between the ages of twelve and sixteen, and become an inscrutable mystery to mother and teacher. The greatest judgment has to be exercised in the treatment of such cases. We see a quiet and docile child become a rough and unmanageable girl or boy, and we also observe the

bursting into existence of all kinds of habits and tendencies which have never been noticed before. There are freaks of temper, unaccountable fits of depression or bursts of wild gaiety, love of solitude or formation of passionate friendships, which are to last through life, but are not rarely broken off at the end of a month; various enthusiasms are indulged in; not infrequently morbid tastes spring up, and habits that may later on, if not dealt with judiciously and firmly, degenerate into vices. Boys will run away to sea, play truant from school, steal money, tell lies, and indulge in other strange vagaries for which their parents and teachers were totally unprepared. Girls will also exhibit many peculiarities, especially where they are herded together in too large numbers and excite each other's imagination. But I firmly believe that, if the mind and body of growing girls were brought into happier and healthier relation with one another, many of these freaks, which I attribute to certain physiological changes that are taking place, would never burst into existence at all. The physiological and psychical storm would pass over the waters of their growing life, scarcely rippling the surface.

Neither girls nor boys, during puberty, should be *compelled* to undergo physical exercise. Nature

generally knows best. I have seen girls come away "almost dead with fatigue," as they express it, from their gymnastics, which they have been obliged to go through, whether they felt inclined for the exercise or not. I have known them compelled to take long walks when the reaction has been so great that they had no stamina left for their lessons. One girl, who is growing rapidly, will often gain as much physical benefit by lying down and resting as another girl who goes for a tramp of five to ten miles, or swims for an hour, or cycles, crickets, boats, rides, etc. Girls are very often suspected by parents, teachers, and even physicians, of malingering; but I believe that, in a great many instances, it is merely nature's demand for different treatment. We look upon laziness as a sort of vice, especially in young and apparently healthy people, but not unfrequently there is a physiological reason for its existence. Strong and healthy youth is rarely idle. In fact, it is the superabundance of animal spirits, the outcome of good health, which enables youth to give the world an onward push. Enthusiasm for all sorts of strange and even alarming theories, doctrines, and practices, is merely another sign of health, and, although it might be wisely directed by the older and more experienced,

should never be suppressed. The girl or boy, the young man or woman, without enthusiasm, is a human being without a sense of religion, and fit for treason, stratagem, and spoil. Enthusiasm may often be wasted on wrong causes, mistaken ideals ; but it is the soul's aspiration after something great and noble, and shows, even in its perverseness, a healthier condition of mind and body than where it is non-existent, and the person travels through life without having committed any grave mistake.

In our consideration of what kind of physical education is best suited to young girls between the ages of twelve and eighteen, I think that the natural taste of each one should be taken into account. A girl who likes swimming or rowing, who seems to have a natural longing for that form of physical exercise, should be allowed to pursue it, and not be forced to take long walks or to indulge in gymnastics. Whatever is distasteful to a human being is never well done nor to his benefit. As Shakespeare says :—

“ To work that we love we rise betimes,
And go to't with delight.”

Whether work or play or exercise, is much the same thing. Therefore schools where the physical education of girls forms a part of the curriculum

(and we expect and hope that all thoroughly good schools nowadays look upon this as an important item) should have a variety of means at command by which the pupils should be able to indulge in the particular kind or kinds of exercise they feel the greatest inclination for. Thus some girls will entertain an enthusiasm for cricket, golf, or hockey, and will derive inestimable benefit, both physically and morally, from being allowed to indulge in their special fancy. Other girls will prefer rowing, gymnastics, or lawn-tennis; and still others, riding, walking, running races, etc. But over-fatigue in any of these physical pursuits should be assiduously avoided—and here the discretion and experience of teachers and parents should come in—as over-fatigue, or even fatigue without the qualification, of the mental system.

Young people without experience are generally without discretion, and tend to ride a hobby to death. The discipline of life has to be learned in youth, and therefore, (although I would seem to allow considerably more freedom for youth than is generally thought desirable nowadays), respect for discipline and appreciation of its objects should be early instilled into the young mind. Discipline is an essential part of the moral law of obedience, and where

it does not coerce and restrain natural endowments and talents, which ever struggle for utterance in the human mind, it is a wholesome and necessary part of our higher education. But it should generally be of a more elastic nature in the hands of teachers and parents, and no hard-and-fast rule should be laid down for its observance. Rigidity of every kind should be avoided in education, and exceptions made, where necessary, for individual development. If youth were thus handled, the system of punishment would gradually be relegated to the limbo of past horrors and errors. A word would suffice, where barbarous tortures were formerly considered necessary, to bring the child into a discipline and an obedience which should bind all alike.

Now, the aim of physical exercise should be to bring the muscular system into harmonious development, therefore one set of muscles should not be allowed to undergo development at the expense of another. Where this is allowed to be the case, beauty is often sacrificed. In rowing, for instance, the chest is broadened, and the muscles of the arms are much increased in size ; but, if walking or running exercise is not indulged in at the same time, the muscles of the legs remain flabby and small. There is no chance for their development in rowing.

Thus the body loses beauty, even if it gain strength in one particular portion. Much rowing is also conducive to heart disease, and, in some cases, undue stretching and enlargement of the blood-vessels. Where there is any hereditary or constitutional diathesis or tendency to disease of the heart and blood-vessels, even when no actual weakness is apparent after a physician's careful investigation, great care should be taken to avoid fatigue, and, on the slightest signs of it, the exercise should be discontinued at once. Fatigue should always be looked upon as a sure token that sufficient exercise has been taken for the time being.

The above remark, as to constitutional tendency to disease, may be applied to all physical exercise. Swimming puts a great strain upon the muscular system and lungs. It should be most cautiously indulged in at first, until the art is perfectly mastered, and even then particular care is required in not a few instances. When a girl is beginning to learn to swim, she should never be allowed to remain in the bath or sea over fifteen minutes, and from five to ten minutes of that time should be employed simply in learning the actions. Where there exists any natural distaste of the water and real inability to master the art of swimming, no girl or

boy should be *forced* to learn it. It is a torture to them, and a shock to the system, which very often renders life a burden for the time being.

Where there is any natural feebleness or delicacy of the muscular system, care should be taken, not only in the choice of exercise, to strengthen and develop it, but also in the method and manner of its application. Mild gymnastic exercises, in the shape of Swedish drill, seem to be very successful in a large number of such cases, especially where the exercises are at first very simple, and only by slow degrees work up to complicated movements involving a large number of muscles, both superficial and deep-seated. I have seen the happiest results in many instances. When such exercises can be carried on in the open air, they will be all the more beneficial to the system.

Riding—which is an extremely healthy exercise at nearly all ages—is the resource only of the wealthy. It does not so much strengthen and develop the muscles, especially in the case of women, who use the side-saddle, as it develops the lungs and invigorates the digestive organs. But if the full benefit of riding would be experienced by girls and women, tight corsets, which are too often seen on horseback, in order to produce a good figure

(save the mark !), should be discarded, otherwise the benefits, which ought to be received, will be completely nullified. The corsets compress the diaphragm, liver, stomach, heart, and bases of the lungs. The respirations during riding, especially when trotting or galloping, are much deeper and quicker than usual ; but the lungs and heart are totally unable to receive the benefits of this quickened and deepened respiration, because they are too tightly compressed. Fatigue and languor are often the result of riding in tight corsets. A slight support may be necessary, but it should be adapted to the size of the natural waist, and should be of some elastic material, to allow for expansion. Riding should, as a rule, be learned early in life.

Golf, cricket, hockey, and lawn tennis are all healthy pastimes, tending to the development of most of the muscles of the system. With the provisoes already notified, they may be as freely followed by growing girls as by boys, and will in no wise tend, as many anxious mothers fear, to the formation of masculine habits. The women and girls of to-day, with all their greater freedom and the strides they have made into the regions of higher education, are in no wise, I think, less womanly and less *gentlewomanly* than they were

in the days of mincing, fainting, unhealthy, ignorant spinsterhood. They are certainly more fit to be the healthy companions of their brothers and husbands, and the mothers of a stronger and more vigorous race of children. And, as a proper system of education tends to refinement and hatred of coarse manners, dissipation, and the like, so the more men and women are educated, the more they will become physically and morally nearer one another in all things tending to the perfecting of the human race.

AILMENTS OF GIRLHOOD.

The rocks ahead of girls at the age of puberty are not necessarily numerous or dangerous, if the health during childhood has been properly managed. In many instances, we see a delicate constitution from infancy taking a decided turn for the better about this time, though sometimes the contrary will be observed. One of the most universally noted departures from health at this period is a poor condition of blood,—bloodlessness or anæmia, as it is called. It would seem as though the strain of rapid growth were not always accompanied by a corresponding increase in the quantity and quality of the vital fluid nourishing the various tissues. Where there

is a proper physiological balance between blood and muscle, anæmia will not occur: it is found only where the physiological balance is unstable, unequal.

But under what circumstances should we most expect to find anæmia present, and what are its signs and symptoms? I will answer the latter part of the question first. Waxy pallor of the face and bloodless mucous membranes (on the inside of the lips and eyelids) are the most striking signs. The girl complains of headache, lassitude, pains in the side, shortness of breath. On going upstairs or up a hill, she will suffer from violent palpitations of the heart, very often followed by distressing sensations of giddiness or faintness. The appetite is feeble, capricious, or voracious, as the case may be. Bilious attacks are very frequent, and constipation is nearly always present—in ninety-nine cases out of a hundred. The ankles very often swell towards night, and the hands are very white. There is very seldom loss of flesh; on the contrary, a girl in this condition often becomes stout, but it is not healthy firm muscle that she is putting on, only flabby fat. The temper is irritable and uncertain, and very often strange tastes are developed. On examination of lungs and heart, and of other organs, by the physician, they are found in a perfectly normal

state, but weakened by the poor quality of the blood pouring through them. If there is any constitutional tendency in the girl to heart disease, tubercle of the lungs, skin diseases, rheumatism, neuralgia, or epilepsy, and the condition described is allowed to go on without interference, one or other of these diseases may crop up in the system, and produce a life of ill-health, ending in premature death.

The circumstances under which anæmia will be most often found are those in which the claims of the body and its physiological changes are duly disregarded by the education-mongers. Close classrooms, insufficient open-air life and exercise, irregularity of meals, neglect of natural functions, late hours, lack of proper clothing, inadequate amount of rest, overpressure of the brain, are one and all instrumental in producing anæmia. During the years of childhood and adolescence, there are two organs of paramount importance in the system, the lungs and the stomach. Upon their proper health and working, the rest of the organs, structures, and tissues of the body are dependent. If the lungs are deprived of a sufficiency of life-giving oxygen, and the stomach of healthful, nourishing food, the blood becomes impoverished, and all the parts of the system

consequently disorganised and possibly diseased. The blood is the life, and it is upon the healthy condition of this wonderful fluid that the general health can be alone maintained. If the brain is constantly using up the nourishing parts of the blood, which ought to be equally distributed throughout the system, can we expect anything else than anæmia, with its accompanying signs and symptoms, and possible consequences? And that is what is being done by the examination-worried, mentally-tormented girl and boy. The brain is feeding upon the food not intended for it, to the detriment of the rest of the body.

Anæmia may degenerate into the condition known as chlorosis, or green-sickness. This is not generally seen amongst girls of the well-to-do classes, but amongst those who early have to seek their livelihoods in close workshops and factories, and in certain unhealthy occupations. There is extreme pallor of the face, with a greenish hue; and all the symptoms I have described are greatly exaggerated. It is, of course, a much more serious disease than anæmia, and often proves fatal. It will produce fatty degeneration of several of the internal organs; and the blood, when examined microscopically and measured, is found to be deficient in red

corpuscles, and to contain a great excess of white corpuscles and fatty globules.

As I have enumerated most of the causes which produce anæmia, it will easily be seen what steps should be taken to prevent its advent, and to get rid of it when it has made its appearance. But there is one symptom which I should like to call attention to, as it is very often the sole cause of anæmia and hysteria (the two being not rarely found in association), and that is constipation. As a rule, young people, being ignorant of all physiological knowledge, and moreover shy and timid about themselves, often neglect the most important physical functions. They allow the body to contract irregular habits, and, as the time rolls by, the consequence of this neglect is seen in the pasty, pallid, bilious-looking skin, which is constantly breaking out into acne spots ; in irritability of temper, moroseness, and even sullenness ; in languor, depression, headaches, faintness, and uncertain appetite. When once the constipation is removed and the system restored to functional regularity, the anæmia, with its various unpleasant symptoms, will completely disappear.

Hysteria is another youthful disorder, which is often the outcome of the physiological changes the

system is undergoing during puberty, and of certain changes that, with the growth of the body, take place at the same time.* The manifestations of hysteria are varied, according to the constitution and the temperament of the boy or girl. Tears, laughter, sudden explosions of temper without cause, morbid cravings of the appetite, convulsions of the whole body, which seem to be very alarming to the anxious mother or teacher, and may last a considerable time, are amongst the most common nervous phenomena. There is generally complete loss of self-control and extreme excitability. Grave moral defects may become uppermost for the time being, and cause much anxiety to the parents, especially if they should be accompanied by unconsciousness of their gravity on the part of the girl or boy. Petty pilferings (kleptomania), lying, malingering, uncontrolled violence of temper, cheating at lessons, prurient curiosity, slyness and

* Personally, I object to the term hysteria being indiscriminately applied, as it so often is, to these various morbid nerve phenomena, as it conveys a totally wrong impression, especially when we find that boys are often affected in the same way. Dr. Crichton Browne, in his splendid article on "Education and the Nervous System," says that "hysterical manifestations are seen now and then in children of both sexes under ten-years of age, and not unfrequently in boys from ten to fourteen."

cunning, immodesty, slovenliness and dirtiness, unhealthy desires, and morbid appetite in the matter of food, are some of the moral, mental, and physical defects which have been noticed, and have to be guarded against. When the nerve explosion or storm has passed over, and the system is once more restored to a healthy equilibrium, these defects will disappear and never return. They may last from a few weeks to a period of two or three years. But in all cases of the kind the girl or boy should be treated as a patient, and as more or less irresponsible for her or his morbid condition. Serious mistakes, resulting in lifelong disease and misery, may occur, if proper moral and medical treatment be not adopted at this time. Where there is any suspected constitutional tendency to hysteria or hypersensitiveness of the nervous system in a growing girl or boy, treatment should be directed towards the physical health, and all intellectual pressure should be removed. The reaction, after class and public examinations, often results in a temporary breakdown of the nervous system, and consequent hysterical manifestations. As a matter of fact, the causes leading to the morbid condition should be carefully investigated and removed as early as possible.

Colds, coughs, toothache, neuralgia, sore throats,

indigestion, insomnia, skin complaints, are also amongst the ailments to which girlhood is most prone. Colds, coughs, and sore throats are generally caused by insufficient or improper clothing ; sitting in damp clothes for several hours during school, or in draughts, or a badly-ventilated, close room ; getting over-heated and over-tired at games or exercises, and then resting in a cool place, and drinking cold water ; lying about on damp grass, and so on. Fortunately, of late years the fashion of woollen underclothing has become, and is fast becoming, more and more general. But, as I shall have to refer to the question of clothing later on, here I will content myself with saying that the health of all girls and boys is very much ameliorated, and their liability to various disorders and diseases much lessened, by woollen underwear. Toothache and neuralgia I put together, because the one very often means the other. Neuralgia is a more interesting complaint than toothache, and excites more sympathy : it is a pretty word, and has a ladylike sound, whereas the much-despised toothache is vulgar and very common. I have noted again and again that, when young people complain of neuralgia of the head and face, they dislike any allusion or inquiry about the teeth being made. But your suspicions

will generally be found correct. One decaying tooth is sufficient to give rise to neuralgia over the whole head. The nerves of the head and face are so wonderfully and closely connected that inflammation will spread along the course of the nerve fibres in every direction, and thus the origin of the inflammation is lost in the universal pain experienced. When a decaying tooth is discovered to account for all the pain, disappointment is felt by the invalid. A tooth, a nasty tooth, causing all that disturbance! Out with it, says the outraged one, or let us ply it with all kinds of narcotics, to ease the distressing, tormenting, never-ceasing agony. Because when once the seat of the evil is made known, strange to say, all the pain concentrates at that one point. The imagination is such a gay deceiver! As long as the young lady thinks it is fashionable neuralgia, the pain darts hither and thither, all over the head and face, even down the spine to the tips of the toes and fingers; but, immediately it is shown and proved to emanate from a diseased tooth, all the pain is immediately localised in that one spot.

Toothache is one of the commonest complaints amongst growing girls and boys, and one which has been much disregarded in this country. Young

people are allowed to neglect their teeth in a very shameful manner, until by the time they reach manhood or womanhood they have scarcely a sound tooth in their head, and moreover have lost a great number of them. This ought not to be, as the teeth are most essential to the maintenance of good digestion and general health. Artificial teeth are certainly better than no teeth, but they can never work so efficiently as the natural teeth; besides which, one's æsthetic feelings must always be more or less shocked by their presence. I would point out here that girls and boys must early be taught the use of the tooth-brush, and should not be allowed to sit down to breakfast or (if it is preferred) get into bed until they have performed this most important and necessary act of cleanliness. But that is not all that is required. Individuals may be very careful about their teeth, and yet these structures will undergo decay. In that case, they should be carefully and periodically examined by a skilful dentist, especially during childhood and youth; and the slightest decay should be arrested at once. This would save great pain and unnecessary expense later in life. Overcrowding of the second set of teeth should be sedulously prevented, as it very often induces rapid decay, and moreover spoils the shape of the jaw and

mouth. Many otherwise very charming and pretty faces are spoilt in this country by prominent incisors in the upper jaw, a characteristic that must be very common, since it has given the French the opportunity of caricaturing us in their comic journals. Who does not know those inimitable caricatures of the British female tourist, wending her way up the fashionable Champs Elysées, in view of the bewildered and mocking Frenchwoman, in her dainty and bewitching costumes? Estimable and highly respectable, no doubt, is our English friend, but woefully uncompromising, as the witty French artist portrays her. He accentuates her height, her lankiness, her long and archless feet, her prominent teeth; and somehow or other, vexed and indignant as we are, we ruefully recognise the picture. We must get rid of the ugly and obtrusive teeth, of this slur upon English beauty (than which there is none other to equal it in the world), and it can be done easily by proper attention during youth. When the jaw is once set, and the teeth are full-grown, it is very difficult to put the matter right. Prevention is better than cure.

Brain-work and a lack of earthy salts in the food (wholemeal bread, fruit, and vegetables) also tend to spoil the teeth. The diet should be care-

fully chosen for its fitness to supply the phosphates; and excessive brain-work, which, as I have before pointed out, withdraws the blood from other parts that equally require it for their proper nutrition, should of course be forbidden. I knew a girl who lost a tooth at every examination she prepared for, and, as she passed a great many examinations, at the end of a few years she was obliged to have a set of artificial teeth.

Neuralgia, when not associated with toothache, is very common amongst the race of pallid, bookish, student girls who shrink from physical exercise. It is generally due to excessive irritability of the nervous system, and poorness of the blood which ought to nourish it. In the words of an eminent physician, neuralgia is the cry of the nerves for better blood. Mental rest and fresh air are called for, and an abundance of good wholesome food, in which cream, cod-liver oil, butter, or any form of edible fat, plays an important part. If neuralgia is neglected when it first makes its appearance, as it too often is, it may finish by setting up hysterical manifestations as already described, or even more serious morbid neuroses. Epilepsy, paralysis, and acute mania later on in life, have very often been traced back to neuralgic attacks

which, supposedly innocent, have therefore been allowed to pass unnoticed and untreated by those who should have been on their guard. Of course, books and continuous application at mental study are contra-indicated in neuralgia.

Indigestion is another widely prevalent disorder amongst young people. It is generally due to the fact, that the growth of the body excites the desire for food, and all kinds of indigestible and unsuitable food are therefore taken in order to satisfy the craving. Mal-assimilation is nearly always found in connection with indigestible food ; and a young person, although apparently possessing a good and even voracious appetite, will be seen to grow thinner and thinner, with dark circles round the eyes, hollow cheeks, and pasty complexion. Constipation, or diarrhoea sometimes, is a frequent symptom. Very often, from neglect or other cause, this condition of things will continue for some years, and, if nature does not come to the rescue, will establish lifelong dyspepsia.

Indigestion, as is well known, is generally the ailment of the student, especially of those who forget in their ardour for learning that their bodies have any claim upon their attention. One could mention name after name of distinguished men and

women whose lives have been rendered more or less wretched by the demon of dyspepsia ; and not only their own lives, unfortunately, but the lives of those who have had to live in close relationship with them. The sweetest of tempers, the most angelic of dispositions, will gradually become undermined and ultimately corroded and soured by the encroaching onslaughts of indigestion. Hypochondria settles down like a vulture upon its victim, and will not release its deadly hold as long as nature is being outraged. In the case of young people it renders them moody, capricious and uncertain, with a love of solitude and books, and distaste for companionship of their own age, for games and healthy exercise. Where there is any hereditary or acquired predisposition to stomach troubles in young people, more attention should be paid to the physical health during adolescence than to mental development. In fact, the latter should be suppressed as much as possible. If the indigestion makes its appearance only now and then, it ought to be treated with much care, in order to prevent it from becoming a permanent institution. And in every instance the *cause* of its existence should be diligently sought for and treated on a sound scientific basis. It is of very little use, and in many cases quite reprehensible,

to tinker away at the symptoms, if the cause of the evil has been left undiscovered.

Young people should be taught to eat slowly, and to masticate thoroughly every bit of food they put into their mouths, especially meat, bread, potatoes, and other farinaceous articles of dietary. If they bolt their food, as is too often the case with children and growing boys and girls (and not by any means unknown amongst learned adults of both sexes), they pave the way to numerous disorders of the digestive organs. Why? Because the food has not been properly prepared for entrance into the stomach. And here will be seen the necessity of two rows of sound, solid teeth, which can grind up and reduce to a pulp the more solid parts of the food: the molars or grinders, to tear asunder the fibres of meat, fish, poultry, etc.; the bicuspid, canines, and incisors, to separate, with their sharper edges, the various particles of all sorts of food.

Besides the work performed by the teeth in the physiological process of digestion, there is the natural secretion of the salivary glands, called the saliva, which also has a most important function to perform,—that of converting, or partially converting, the starchy elements of the food (farinaceous)

into grape sugar. This watery secretion pours into the mouth, when food is taken, from six glands, three on each side of the mouth ; and its active principle, ptyalin, seizes hold of the starch and gradually changes it into a sugary substance. Starch, *per se*, is incapable of being absorbed or assimilated by the system. If it did not undergo this change, it would be perfectly useless as a means of nourishing the body. And, moreover, in the form of starch, it clogs up the stomach (which does almost nothing in its digestion) and interferes with the action of the gastric juice upon albuminous articles of food. Therefore it is absolutely necessary that all food, whether nitrogenous (containing albumen) or carbonaceous (containing starch, sugar, etc.), should be kept in contact with the teeth and saliva some little time, for the due and efficient performance of digestion. It will be easily seen, then, that the habit of eating quickly and bolting the food is a very bad one, and should be forbidden by parents and teachers. But the physiological reason *why* should at the same time be explained, as else young people are apt to think that the censure is one of those fidgety ways that grown-up people have of rendering their young lives a torment.

Fresh air is another essential element towards digestion. The oxygen of the atmosphere is a powerful stomachic stimulant, far more so than the artificial aids which are sought in the shape of beer, wines, and spirits. Meals taken in the open air are always more easily digested than those taken in rooms, and in well-ventilated rooms than in close, stuffy ones. It would be impossible for a pale-faced, puny London tailor, or a stived-up East-end shop-girl, to digest the chunks of cold fat bacon, hard strong cheese, and leaden-looking suet dumplings, which an agricultural labourer easily disposes of, sitting under a green hedge, and with the fresh air of heaven playing on all sides of him. Neither the shop-girl nor the tailor, nor hundreds of thousands of others in the same position, have the functional energy to digest anything but the plainest and lightest of food. Not that they always get what they ought to have, poor things ! for their main subsistence, I am sorry to say, is bread and tea ; but their natural feelings preserve them from the diet of their country cousins.

In schools, therefore, meals should never be taken in the rooms where classes have been held during the morning. A well-ventilated, large, light, cool room (but not cold) should be chosen, and

the atmosphere kept, as far as possible, constantly renewed. During the summer months, the simpler meals—those that do not require to be eaten hot—might be taken in the open air, when the ground is dry and the atmosphere clear from moisture. Children and young people, aye, and people of any age who have not had all their naturalness pampered out of them, always enjoy their meals under these healthful conditions. During the years of growth, and especially while the brain is being exercised, the meals should be regular, wholesome, and varied. Strict attention should be paid to the physiological requirements of the growing body, and innutritious food would at last come to be looked upon as so much poison.

Where large numbers of young people have to be catered for, it is found impossible to take individual tastes into consideration. But we must never forget one important gastronomic axiom, which is that what is one man's meat is another man's poison. Even the most nutritious articles of diet are not always liked and appreciated by every one, and will often do absolute digestive harm where the natural distaste, either from fear of punishment or from some other cause, is fought against. The stomach rejects what the palate does not sanction. Children

at school will often persevere in eating things against which their natural taste, and it is sometimes hereditary with them, revolts. For certain forms of food, and the way in which it is cooked, they entertain a loathing, and yet are oftentimes obliged to eat it, or they would get nothing else. Even in private homes, I have heard the parents say to a child, who has expressed a dislike to a certain dish, "Then, if you can't eat it, you must go without"; and the child has gone without, rather than do violence to its natural taste, whilst hunger has gnawed at its vitals. The parents think they are disciplining a fanciful child by some such treatment as the above. There is no discipline about it at all. On the contrary, such a method of correcting or forcing a child's natural taste is enough to withdraw it from all proper discipline. The sense of hunger will sharpen a child's temper, and the further sense of injustice will render it rebellious and naughty. If children were brought up from the beginning—*i.e.* from their earliest infancy—to partake of the foods, properly prepared, that the system requires for its growth and nourishment, there would be far fewer capricious appetites and palates. But mothers and nurses are so grossly ignorant, that children's bodies are either starved, or stuffed with unwholesome food.

The human system requires certain saline and mineral elements, which ought to be supplied in the food. The bones cannot grow or become strong without a sufficiency of phosphate of lime ; the blood must be supplied with its saline and mineral constituents, in the form of sodium, lime, potash, magnesia, iron, phosphorus, and some others, to keep it healthy ; the muscular and nervous tissues also require their share of these elements. And many and fatal are the diseases which result from a deprivation of them. They are found in varying quantities in the different forms of food : viz. meat, bread, milk, eggs, vegetables, green and farinaceous, and fruit, more especially in vegetable foods and fruits. As a rule, the regulation diet of large schools, not otherwise unwholesome or insufficient perhaps, is deficient in fresh vegetables and fruit. When we consider the amount of nourishment contained in such articles as rice, oatmeal, peas, lentils, haricots, parsnips, turnips, carrots, sea-kale, celery, tomatoes, sago, tapioca, arrowroot, etc., we must needs express our astonishment that the diet of growing boys and girls is not more plentifully provided with these cheap and wholesome forms of food. Of variety there is almost no end, and the ways of cooking are as

numerous. But what is the daily dinner (taking the principal meal as an example) of our boys and girls? Roast or boiled meat, hot or cold, garnished with the everlasting potato. Not that I have a word to say against the nutritious tuber, especially when it is well cooked; but I protest against its daily appearance, when its place could be so often supplied by other vegetables. Following the meat and potato, which may be perfectly wholesome and well cooked, is the inevitable suet pudding or stodgy tart. With but slight variation, this is the daily dinner—year in, year out. I do not say that the body can be starved on such a diet, especially if there is a plentiful supply of milk, butter, eggs, and wheaten bread at other meals in the day; but I do say that there might be much greater variety, and that more attention should be given to the providing of well-cooked cereals and green vegetables, and fruit. The fruits, as they come into season, should not be distributed with a niggard's hand, but freely. They should be eaten ripe, but not overripe,—that is, when they have begun to ferment. Apples are very wholesome, either cooked or raw, and should never be withheld, unless they are known to cause diarrhoea or colic.

I can scarcely insist too strongly upon regularity

of meals. Children and young people (in fact, it would be a better plan for everybody) should take their last full meal about six o'clock in the evening. I have seen many children in high-class families allowed to sit up to suppers with their parents and friends at a late hour. This is simply ruinous for their young digestions and for their night's rest. Such a habit has not seldom laid the foundation of serious dyspepsia through life. In other cases, I have seen young girls so absorbed in their studies, so consumed by the examination fever, that meals have been looked upon as an irritating and unnecessary interruption, which must be got over as quickly as possible. This carelessness with regard to meals engenders the habit of quick eating, with, in time, its dyspeptic consequences. For the proper performance of digestion, it is not only necessary that food should be plain, wholesome, varied, simply and well cooked, but that it should be thoroughly enjoyed at the time of eating. Good cheer should wait on digestion; and it shows no intellectual superiority in the young when they encourage feelings of contempt and indifference for their food. Natural enjoyment of food is quite another matter from love of eating, which degenerates into greediness. The *via media* has to be sought and main-

tained, and it is in searching for the *via media* that one of the lessons of self-control is best learnt.

TREATMENT OF COMMON AILMENTS.

In the ailments of girlhood, I have noted only those which are the most common, and which do not presuppose the existence of serious disease. In an essay on hygiene, one has no right to enter upon the subject of disease, which is encroaching upon the domain of medical science, and therefore not suitable for the general public. I have omitted to bear upon one very widespread ailment, which can be mentioned and dismissed in a few words. It is general weakness, and is very usual amongst growing girls. The commonest symptom is pain in the back, especially in that part known as the small of the back. It is not an acute pain, but a sort of dull, heavy sensation, which indisposes to exertion and renders the girl languid and lazy. She stoops, and makes no attempt to hold herself upright. The shoulder-blades grow out, and the chest becomes flat and contracted.

Gymnastics are very often recommended to overcome this condition ; but the girl soon gets a dislike for them, as they seem to do her no good, and increase the general feeling of fatigue. The weak-

ness is simply due to rapid growth ; and the most natural treatment, and at the same time the most scientific, is rest in the recumbent position. The reproach of laziness should not be brought against quickly growing girls, or boys either, when they express disinclination for active exertion and intellectual work. To Nature should be given time to work her own cure in her own way. Many a badly-shaped figure is due not to natural deformity, but to pernicious treatment during the trying years of growth.

Parents and teachers think that the important years of knowledge-gaining are from fourteen to eighteen, when the intellectual faculties are budding into activity with the general growth of the body. Never was a greater mistake made. The brain forced during these critical years may show brilliant results at the time, but too often collapses into mediocrity afterwards. Two or three years' earnest study when the growth of the body is completed, and the intellectual faculties are beyond the budding stage, will produce a satisfactory and permanent result ; and far more will be accomplished during that time than in all the foregoing years put together. I am here referring particularly to girls who suffer from weakness due to general growth.

Healthy girls who do not experience any inconvenience from their growth may study a few hours every day without doing themselves any harm, probably with a good deal of benefit; but, of course, I always mean, when I speak of study and education, that which every human being ought to receive for the development of his or her individual faculties and intellectual idiosyncrasies, not the cut-and-dried system which passes muster for education nowadays.

I think I have indicated the general lines of treatment in the foregoing pages, but I should like to add a few special words with regard to one or two of the more serious ailments, such as anæmia and hysteria. In the former, I have already alluded to the importance of establishing regularity of the natural functions. Constipation must be cured, but it must be accomplished by natural means, and not by drugs. I set my face entirely against the administration of drugs to young people, unless when absolutely necessary and upon the advice of a reliable physician who watches the case.

Constipation, as a general rule, can be very successfully treated by attention to diet. Oatmeal porridge, nicely cooked, with treacle or milk, for breakfast, Wholemeal bread, vegetables, and fruit

should largely enter into the meals. Two or three apples taken at intervals during the day will, in many cases, successfully combat the most obstinate constipation ; also a glass of spring water (not hard) the last thing at night or on first waking in the morning. Thin cocoa, warm milk and water, should replace tea and coffee. If the drinking water is hard, it very often causes obstinate constipation. It must be boiled and filtered before drinking. Very soft water is liable to produce diarrhoea, also rapid decay of the teeth, from deficiency of the salts of lime and magnesia. There are whole districts in certain parts of Yorkshire where it is almost impossible to find any one with a sound set of teeth. Young girls and even children lose their teeth very rapidly, and have to wear artificial ones. In these districts the water is soft ; and I have no doubt it is due to this fact that the inhabitants lose their teeth so early in life.

Anæmia is due to poorness of blood and deficiency of its corpuscular and saline elements. It is often treated by the administration of iron, but not always successfully. Without doubt, the best treatment is plenty of fresh air and good wholesome, nourishing food. A sea voyage of some two or three months, a cruise in the Mediterranean, a

holiday on the mountains or in the highlands, and no head work, will often cure anæmia, and will do so permanently. The same mode of treatment may be adopted in the case of hysteria; but, in addition, great moral influence is required to be exercised over girls afflicted with this complaint. Firmness, but not severity; kindness, but not weakness,—are necessary, and the mind should be as far as possible prevented from dwelling upon itself. Scare should never be felt by mothers or those in care of a girl when a hysterical attack actually occurs. Consciousness is never entirely lost, however much the convulsions may convey that idea to the onlooker. The tongue is never bitten through, as in epilepsy; nor is there any foaming at the mouth. Generally it will be found that a patient does herself very little bodily harm. And there is a marked difference between the mode of seizure of hysteria and epilepsy, with which it is so often, and not incomprehensibly, associated. In the latter case, without any warning whatever, the patient will utter a peculiar cry and fall down in a state of rigid convulsions. The place and time are never chosen by epileptics, whose lives will very often be in the greatest danger by the suddenness of the attack. They will fall in the road beneath wheels, or on

to a great fire, or from a precipice. Many deaths occur amongst epileptics in these different ways.

But hysteria begins more gradually ; is worked up to, as it were. It may have its beginning in a fit of temper, or in a slight contrariety of some kind or another. The girl often passes from an uncontrollable fit of laughter into tears, and from tears to screams and mutterings. The body will be thrown into convulsions, but physical injury is avoided. It is very seldom that an attack of hysteria ever takes place when the girl is by herself or before strangers, never in the streets or in any situation of danger. Therefore we may draw the conclusion that, although hysteria may be evidence of a certain amount of nerve disturbance, yet it is functional rather than organic ; that it is a temporary ailment, and not a permanent disease ; and that it is more or less under the will-power of the individual affected. And, in fact, it is upon the will, the strengthening and exercising of that faculty, that we depend for success in the cure of it. It is not a bad plan, although I should not recommend it in all cases, to show very little sympathy during an attack. The room should be cleared of everybody, excepting one person, and a careful watch should be kept over the patient, without fussy interference. Ignorant people

very often exhibit a mandlin sort of sympathetic interest or curiosity in such cases. It does no good at all, and is very often productive of much harm. The patient, never losing consciousness, knows exactly what is taking place around her ; and, as long as a number of people are fussing about, she will continue the attack until physical exhaustion takes place. If, however, she is left severely alone, and in the care only of a kindly but really firm person, the *sauce piquante* will be removed, and she will, in the majority of instances, quiet down and come out of her attack. Functional hysteria never killed anybody yet, but epilepsy kills its thousands.

Of course, in hysteria, as in all other complaints, the origin of it should be sought and means taken for its removal. When it is due to overwrought nervous system from mental study, and anxiety about examination, the girl should be at once taken away from these exciting influences. She should be sent to vegetate in the country for several months. The rest and change will do her an immense deal of good ; and, if she forgets the greater part of what she has been learning for years past, it will not do her the smallest harm—especially not intellectual harm. The brain refreshed and restored will return

with all the more vigour and vitality to work, and, if kept within due bounds, will soon pick up what it has lost, and a great deal more besides. . It is quite possible that the rest in country scenes will have enlarged and expanded the intellectual faculties, and more learnt in a simple country lane than in a year of previous class-room life.

I must say a word here, and I hope it will not be considered out of place, as to the habit of allowing children and the youth of either sex anything in the shape of alcoholic stimulants. As an eminent Irish physician * once said in a medical address to his colleagues, "It is morally unjustifiable and physiologically wrong to let young people know the use of alcohol as a beverage." We are at liberty to have our opinion, and exercise our discretion, with regard to its efficacy as a drug; but we can have none but condemnation for its use in any other way. It is not a food: it does not nourish the system. It cannot create warmth, because it is not a combustible food; and, as a matter of scientific fact, we know that in proportion to the amount of it that is taken so it diminishes the temperature of the blood. It exercises a most pernicious influence upon the nervous system, and unfortunately, in far too great

* Dr. Madden, of Dublin (the Rotunda Hospital).

a number of cases, the appetite for it grows upon what it feeds. The disastrous liking for alcohol, which has been the physical and spiritual ruin of so many millions of our fellow-men and women, is formed during the impressionable years of youth; and, when once the fatal habit is contracted, it is difficult to break with it later on in life. As a wise man has said, Bring up a youth in the way that he shall go, and in after years he will not depart from it. Far too many parents are responsible in this matter for the ruin of their sons and daughters; and if they could but see their duty, their sacred responsibility in the matter, they would keep their children from all knowledge of alcohol as they would from the knowledge of evil itself.

The diseases induced by alcohol, especially those affecting the nervous system, are hereditary. The taste even for alcohol is often an inherited one; and as it is impossible to say what human being is or is not born with the taste, which may prove fatal, it were better that it should never be developed. Abstinence from alcohol as a beverage never yet shortened a life, or induced a single disease, and I challenge any one to prove the contrary; but its use has been the source of endless physical misery. Even in moderation there is danger, as Sir William

Gull pointed out, in the valuable testimony on the subject of drunkenness which he gave before the House of Lords Commission in 1879. I quote his own words : " I should say, from my experience, that alcohol is the most destructive agent that we are aware of in this country. Even in a moderate measure, it injures the nervous tissues, and is deleterious to health. I should like to say that a very large number of people in society are dying day by day, poisoned by alcohol, but not supposed to be poisoned by it." True and solemn words these, which ought to have the effect of influencing every thoughtful woman solicitous for the welfare of herself, her children, and her fellow-creatures.

Women, nowadays, lead very much more exciting, uncertain, and changeful lives than they did in former generations, and I have no doubt that the great increase of drinking habits amongst them is due to this period of transition through which they are passing. Their highly-strung nervous systems get easily depressed, and run down. They crave for stimulants and narcotics. The habit once formed is not readily relinquished, and then the cry is heard, " Alcohol is necessary for my health, for my existence : I cannot possibly do without it." Thus the insidious poison takes its physical hold

upon the system, and works its evil way. I can not express myself too strongly to those who allow young girls to indulge in stimulants of any kind. When an artificial aid of this sort is necessary to an otherwise healthy girl, it shows that there is an agent at work which is injuriously affecting the system. In the great majority of cases, it is mental overwork and rapid physical growth. The stimulant may, for the time being, seem to benefit the system ; but the benefit is never a permanent one, and, when the drug is left off, a reaction sets in. It is at this fatal moment that the habit, having been formed, cannot be relinquished, and the daily work cannot be accomplished without beer or wine. For this reason, the idea has grown up that alcohol is necessary for health ; that it is a valuable food (scientifically exploded) ; that it is one of God's good gifts, and intended for our use, and not for our abuse. Specious arguments all of them, which cannot bear the light of day thrown upon them.

We have no belief in theoretic statements : we want *absolute scientific* proof given to us that alcohol is a food, that it is necessary for our health, that our lives are shortened by abstention from it, that diseases are due to its non-use, that it is one of God's good gifts. When these statements have

been scientifically (and the last one scripturally) proved to our satisfaction, we will lower our banner and proclaim a truce. Until then, we will continue to warn all sorts and conditions of men (and women) against its use, and endeavour to inculcate the superior scientific ethics of plain living and high thinking. I can only say in conclusion to these few words on a most important subject, and one which I feel most deeply and earnestly, may God have mercy upon this country when her women lose their reputation and character for sobriety! As it is, no country in the world has such an unenviable notoriety for drinking and drunken women as our own; and surely such a dark stain upon our fair fame should arouse all the indignation, fervour, and enthusiasm, of which we are capable, to remove it once and for ever.

When we look at the fair young girls, with their fresh and rosy lips, quaffing in all innocence and ignorance the iced champagne and claret cup, the Burgundy and sherry, at luncheon and dinner, can we not project ourselves into the future, and see some of them as in a glass darkly, with all their fairness and youthfulness vanished,—weary, dissatisfied women, gradually sinking into deplorable courses,—falling every year more and more under

the influence of the fatal habit, breeding disease in their system, and exercising a pernicious influence on children and servants? Do we not see it again and again? The action of alcohol is stealthy, but none the less fatal. It gradually demoralises the character and all the higher faculties of the intellect and nature, to say nothing of its fatal physical effects.



CHAPTER IV.

WOMANHOOD.—MATURITY.

AT what age do young people merge into manhood or womanhood, as the case may be? It is difficult to say. It seems to be at a much later age for both sexes in temperate and northern climates than in warm and tropical ones. As a consequence of this later development, youth is much more prolonged, and the period of middle age extends to years which are in many countries looked upon as sufficient evidence of extreme old age. I should think (although I have no reliable data to go upon) that this would mean a greater average length of life in temperate climates than in hot climates, and also that a greater number of people live to be very old (*e.g.* centenarians) in temperate climates. It is an indisputable fact that people of both sexes, when their life has not been too great a struggle for the mere necessities of existence, are far better preserved after middle age in temperate and even

dismal climates than in your warm, bright, sunny ones. Indian, Italian, and Spanish women, at forty, when English and French women are blooming and fresh, and with every intention and possibility of remaining so for many years to come, are withered, haggard, and old-looking. They seem to step from youth to age without passing through that softening process of maturity which robs "getting old" of much of its bitterness. And whilst I am on the question of climate, I may as well draw attention to the fact that, if ours is what is called "beastly" by University-bred young men, it has its compensations. Be not in too great a hurry, fair ladies, to leave your moisture-laden atmosphere, and seek the fierce sunlight of other climes. There is no doubt about the matter, that the beauty and freshness of English complexions are due to the cloudy skies which are ever hanging overhead, and yielding their copious contents to saturate the atmosphere in which we live and have our being.

It is said that girls pass more quickly into womanhood than boys into manhood. If they were both judged from the same standard, I do not think this would be altogether true. A youth is scarcely looked upon as a responsible being—in other words, as a man—until he has achieved a position, which

generally means a position when he can afford to marry, and keep a wife and children. In these days of bitter struggle for life, such an achievement is not accomplished much before a man has reached the age of thirty. So he is generally looked upon as a boy until he arrives at that age. With a girl, it is different. She is considered marriageable from the time she reaches eighteen. If she had first of all to establish herself in life, before she could keep a husband and children, the age of womanhood would be put much later on, as in the case of men. When women remain unmarried, they seem to retain their girlhood even longer than young unmarried men do their boyhood. There is always a greater freshness and inexperience, if not actual innocence, about the former; and this means youthfulness. I should like to contradict or upset another ridiculous theory that seems very common. Men have laid it down as a law, and women, with their proverbial humility, have accepted the sage *dictum*, that women get older, and get to look older, much sooner than they themselves do. There is not a shadow of truth in the assertion. If any comparison has to be drawn between the sexes on the subject, it would certainly be in favour of women, especially the women of to-day, who lead larger, fuller, and

freer lives than their mothers and grandmothers did. I do think it possible that women of a former generation, who had nothing but marriage in life to depend upon, grew old much sooner than the men of their time ; but nowadays, when nearly every activity in life is shared by the two sexes, there is not a particle of difference. As a matter of fact, men wear themselves out sooner than even the women of to-day, who are engaged in such a vast variety of pursuits, for they die on an average five years sooner than women. Of course, this means that women lead more quiet and wholesome lives, that they do not use up their constitution during the heyday of youth in all sorts of questionable ways, for which Nature takes her just revenge later on in life. Men who think it necessary, in the exercise of their masculine superiority, to sow what is termed their wild oats, often have to reap a harvest of tares and tears ; the majority of women are spared this terrible experience.

There is no determinable age at which a girl passes into womanhood. Some girls are more womanly, or developed, I should say, by nature, temperament, and physical conformation, at eighteen than others at thirty. Some women remain undeveloped all their lives. Others retain a certain

youthful charm, which is a different thing, until old age. I have seen not a few fully matured women at the age of sixteen, ready and willing to undertake responsibilities which might daunt the courage of much older women. It is a question of temperament and education, in the great majority of instances. Thus, from puberty to the climacteric, the physiological changes are very gradual, and pass by insensible gradations into one another. Growth is generally completed by twenty-five years of age, but may be prolonged until the age of thirty. The bones of the head and pelvis, it is said, become entirely united about the former age, although some learned people have noted growth of the skull until quite late on in life. We also notice that the pelvis of most women is far more expanded and developed at forty than at twenty, even when she has not borne children. In the case of those who bear children, it is markedly so. It is probable that growth or structural changes of certain kinds continue until the climacteric takes place, after which there is gradual decay until death. This is not to be wondered at when we are assured, upon the authority of science, that the body undergoes complete renewal in the short space of a year. In the process of renewal, due to the marvellously

rapid multiplication of the cellular elements of the body, growth and change take place. And, until the cells begin to lose their vitality and their power of rapid reproduction, we may assume that growth of the bones can actually take place after youth. Bony structure is the least likely to undergo changes after a certain age, because of its physiological composition, but that it does do so is beyond any question.

Women of all classes nowadays are far healthier than they were in a past generation. The type is altogether a much finer and a more beautiful one. Women who are getting on for fourscore, and are not moved by jealousy for the honour of the good old days, but love to see progress and improvement, admit frankly that there are a far greater number of healthier, happier women now than in their youth. It must be so. Fifty years ago, woman, beyond marriage, had no life at all. At thirty, if unmarried, she had to don a cap and retire to a back seat—a very back seat. If she lived in the country, she cultivated her garden like one of Voltaire's characters ; if in town, her parish or her sister's children, or some one else's children in a seminary for young ladies. Nowadays, no woman at any age takes a back seat. The caps have been flung over the windmill, and I do not

think they will ever be gathered up again. Quite apart from the question of marriage and motherhood, which no *true* woman will ever despise or undervalue, women have found that life presents a number of interests, possibilities, and means of happiness which were quite unknown to their poor restricted grandmothers. The consequence of this is that they are a finer moral type as well as a finer physical type. They are no longer moved or touched by the melancholy pettinesses, jealousies, and meannesses which consumed so many of them in a former age. They have neither the time nor the inclination to hate one another, to waste their youth in envious rivalries, their maturity in evil-speaking, lying, and slander. There were noble women in past times, glorious women, who stand out as types of all that is admirable and worthy of imitation; but we know of them because they were so different from their contemporaries. Now, there are so many fine and noble women in all walks of life that they will scarcely shine through the ages with so much individual lustre as their sisters of a past time. But it is far better to raise all mankind a degree higher than that one man or woman should stand out head and shoulders above the rest who are grovelling in hopeless mediocrity.

Fifty years ago, men appreciated (or said they did) the limp and pallid girls who were to be the future mothers of their children. They affected to despise those few women of independent and original characters, and healthy mien, who carved out a career for themselves in spite of all the difficulties which presented themselves. *Autres temps, autres mœurs*. Nowadays, men like the healthy, helpful, hopeful women who enter with courage into their schemes and objects, and have, not a few of them, schemes and objects of their own. Without any circumlocution, women make far better mothers and wives now than they ever made. Why? Because they are more of human beings and less of puppets worked on wires than they were. They are far more alive to their maternal responsibilities than they ever were before; they are learning to know the value of human life and its sacredness. They have a higher conception of the *future* of the human race, and consequently they work towards it by greater self-development and more real religious sentiment. But is there not much to be done? Are women all that they might be? As long as faulty humanity lasts, there will always be much to be done; and I shrewdly suspect that women will no more be all

that they might be than men. There will ever be the ebb and flow, the action and reaction, in the affairs of men. And yet with it all we shall make progress ; but the *effects* of our progress to-day will not be seen or felt for many a generation. We must leave the future in the hands of God, who works His will through us.

I think the great question is, whether it be for the hygienic welfare of women that they should be brought up, like their brothers, with an aim in life. That a great number of women were miserable and consequently unhealthy (for there is no such breeder of ill-health and disease as unhappiness) in the past, there is no doubt ; but they were generally the unmarried women. Nowadays, all women cannot get married, even if they wanted to. Some women prefer not to marry, although I think there are few of these, just as there are some men who *prefer* not to marry. But if all women are brought up to look after themselves, to have an object in life, they will certainly marry later in life than their grandmothers did. And I think this postponement of their marriage will be an advantage to themselves and their children. But if women have suffered in the past from idleness, and from finding life hopeless and empty if they did not get married,

may they not suffer nowadays from overwork and anxiety? It is quite possible that this is the case, but it is the lesser of two evils. Unless the entire social system is fundamentally changed from what it is at present, I cannot quite see what sphere is to be occupied by women which will be a great improvement upon those they fill at present.

At the same time, there are certain manual occupations which I hope will never be thrust upon women, occupations which I hope they will never care to undertake. They may be able to follow them; but, in our ideal of what is fitting, harmonious, and beautiful in the order of things, we do not wish to see women degraded into mere beasts of burden, as they are in many countries less civilised than our own. Even in our civilised country, it is bad enough; in some instances, it may be, worse. Chain and nail making, working at the pit-brow, are not fit employments for women,—scarcely are they fit for men; and such callings are not conducive to their physical welfare. And if they are obliged, from the force of circumstances, to work in this manner, they cannot possibly give birth to and rear such fine and beautiful children as those women who have not exhausted their physical strength and womanliness in the same way. Let

women who cherish their well-being, the well-being of their children and the future race, leave the rough work of the world to be done by men, who are better able, by their muscular development, to do it without injuring themselves. As long as there are men measuring out yards of ribbon and tape, and dealing out stockings and other articles of underwear over the counters to women, so long will there be women working at the pit-brow and in the chain-making district. The social system which allows these monstrous anomalies must be wrong ; and it is the duty of social reformers, male and female, to set it right, for the credit of themselves and in the interest of the race.

In England there is a strange force at work, which makes family life less united and less devoted than in almost any country in the world ; and it is especially noticeable in the middle classes. The parents, with no forethought, generally live up to every penny of their income. Their children, girls and boys, must work, unless the girls get married. But in far too great a number of cases the girls have been well educated, but not trained to any career, nor expected to follow one. The years roll by, the girls do not get married, or perhaps only one or two of them do, and the father dies. There

is scarcely enough left for his widow to live upon. Then come all the agony and misery of seeking for work, to which these poor women are not accustomed. I have seen sublime struggles carried on by delicately nurtured women, brought up in luxurious homes, cast all at once upon their own meagre resources. Well educated as they have been, theirs is the kind of education for which there is no demand. The long years of hopeless struggle for a bare livelihood undermine the health, and bring many of them to a premature grave.

It is all a mistake. Either every woman must be properly trained to follow the career for which she is most fitted, or every father must provide a suitable dowry for his daughter, which she could enjoy from the age of twenty-five, or on his death. The former would be preferable. But there is something wholly wrong in our middle-class life, the wealthier grades of it as the poorer, which can put such countless numbers of women into these heartrending positions. There is nothing which fills my soul with so much pity as the sight of several unmarried daughters, of varying ages, in a wealthy middle-class home. They do not know in the slightest degree how they stand with regard to their future prospects. They believe their papa is

rich. He gives them a fair allowance for clothes and pocket-money. They spend their days in a variety of ways, for modern English girls are seldom idle; but it is all unfruitful, unproductive labour. They paint a little, play a little, work in the parish, busy themselves in some philanthropic pursuit, even throw themselves into their father's and brothers' politics. Some fine day the crash comes, and, no longer young, these daughters are suddenly thrown upon their own resources or upon the charity of relatives. Remorselessly the wheel of life,—like the pitiless Juggernaut car,—crushes them beneath its weight of care, sorrow, anxiety, and responsibility.

Let every girl aim, then, at independence, and be brought up to do so. If she marries, the experience will have deepened and broadened her views of life, and given her a chance of doing better for her own children; and, if she remains unmarried, she will have an object in life, a something tangible, which will sweeten and purify the trials of life. And certainly, from a hygienic point of view, there are not two views of the matter. Work which is done with a certain object in view, and which is more or less a necessity, is generally better performed than work which is laid down or taken up at the caprice

of the individual. Delicate people who work hard—not beyond their strength—are less often ill, or give way to feelings of illness, than strong, healthy people who have nothing to do. Then in Carlyle's words I say, "Produce, produce, if it be but the infinitesimalest product of a fraction, produce it, in God's name."

There is no greater or more prolific source of debility, hysteria, anæmia, than having nothing to do. It is one of the commonest of a physician's experiences to have a young lady brought to him who is pale, languid, and weakly. She has nothing much the matter with her, and does not complain of pain; but her appetite is faulty, she is getting thin, she does not seem to take much interest in anything, though extremely lively and quite active when there is anything in the shape of a ball, party, theatre, or picnic on the *tapis*. In fact, pleasure is the only thing she lives for and cares for. She exhausts her vitality in its pursuit, becomes anæmic, hysterical, and unstrung. Sometimes she falls in love, or, what is more general, I believe, in society, becomes engaged to be married. For a time, her health is much improved, and may become permanently so if she gets married and has children. But if by any chance the match is broken off, as is

so often the case in this country, when engagements between young people are often entered upon without any previous knowledge of one another, then, the reaction from the temporary excitement of a new sensation being withdrawn, the condition of ill-health returns.

The years between eighteen and twenty-five, after actual schooldays are over, and the permanent settling down in life, whether in marriage or otherwise, is definitely fixed, are a critical period (I don't mean at all dangerously critical) for women. Unless they have to earn their livings, they do not know what to do with themselves. They live at home, and sometimes take a little interest in domestic affairs; but it is not a very vivid one, because the house is not their own to do with what they like. They will sometimes cultivate such talents as they possess in order to shine in their circle and amuse their family and friends. But the days pass by, the months and years come and go, and the weariness of death enters their souls and gnaws at their hearts. Unless some great human reality comes into their lives to save them, they gradually fall into the ranks of discontented, chronic invalids. Mothers, save your daughters from this dire possibility. Let them work in the heyday of their

youth and strength, so that it becomes second nature—a good and wholesome habit, which will save them from many a physical evil and much moral danger. If idleness is the parent of all vice, work is worship. Work does not always bring its full pecuniary value, but no nature was ever permanently injured which preferred work to idleness ; and we can be made to love it, if the habit is early learned. Therefore, in order to preserve the health of our young women, let them be educated with an object ; let them take up a career ; let them pursue it with courage and enthusiasm ; let it be a career suitable to their talents and capacities ; let it remove them from the fear of want or the possibility of dependence upon others. By this means, the character will grow in fulness and richness, the nature in depth and force, the constitution in strength and vitality ; and, as a result, we shall gradually see the conquest of mind over matter, and the extermination of disease.

THE QUESTION OF CLOTHES.

In my chapter on girlhood, I purposely refrained from referring to the question of clothing, because I consider that my remarks thereupon will apply to nearly all periods of life. It is certainly a

subject which has come very much to the front of late years, and properly so. A great deal of illness and chronic ill-health has been due to improper clothing, but I do not think that women suffer more from the form and fashion of their dress than men do from theirs. There is something to be said for the costume of both sexes. Women's dress is, on the whole, warmer and more becoming than men's. Men's dress is more convenient and probably lighter (or distributed more evenly over the whole of the body), but it is hideous. I hope women will never want to imitate men, either in their dress or in their smoking. By all means, let the other sex remain in unenviable possession of these two masculine prerogatives ; but, if we must take to one of them to show our equality (?), let us choose the tobacco and discard the costume.

Dress has a physiological end to serve as well as a social one, especially in this climate. We cannot ignore its claims : it forces itself upon us every day of our lives. There are scarcely two days in the year when we can go out dressed in the same manner. Even in the course of one day, the temperature will change many times, and oblige us to consider the question of more or less clothing. But there is a golden rule which every one should

observe, viz., that the garment next to the skin, from head to foot, should always be of the same material, and that material woollen. I believe that one reason of the immense improvement in health, which has been made by this generation, is due to the fact that the skin has at last got its due proportion of nourishment and warmth. It is a lesson which is not quickly learned. Youth does not feel the cold like crabbed old age. Its blood runs more swiftly through its veins, its muscles are more lively and constant in action. Therefore it takes no heed of external temperature, unless it suffers with chilblains or other affections which are directly due to the effects of cold and damp. Even then the young person will often go on suffering without paying any attention to the cause of it, or caring to know the cause of it. There seems to be a reason for this indifference or carelessness. Unless a child has been brought up from infancy in woollen clothing, a great repugnance is felt for it by young women. They would rather endure tortures than put on anything which they consider unbecoming. They look at the comfortable grey underwear with dislike and disdain, and turn to the pretty, flimsy, lace-trimmed cambric garments, which appeal to their æsthetic senses, with affection and apprecia-

tion. There are thousands of young ladies in our enlightened country to-day who would rather bear the agonies of chilblains and cold feet, due to defective circulation, than put on a pair of woollen stockings in place of the open-lace-work, silk, or Lisle thread which make their feet and ankles look pretty. Later on in life, when the days of vanity are past, and rheumatism, sciatica, neuralgia, and bronchitis have, one or other of them, settled down as a permanent visitor in the system, the woollen garments are sought after, worn, and appreciated. But, unfortunately, it is then too late to do anything but alleviate the distressing symptoms of these ailments.

Natural wool nourishes the skin and assists its functional activity. It also, which is of the utmost importance, prevents the body from being influenced by sudden changes of temperature. Linen and cotton are good conductors of heat; wool is not: therefore the former substances render the body susceptible to the constant changes which take place in our variable climate. I have said that wool worn next the skin assists its natural activity. This is especially the case when the body is in active exercise,—a much larger quantity of blood is circulating in that vast net-work of blood vessels

which the skin contains in its various layers. The glands of the skin, being stimulated by the presence of the blood and by the exercise of the muscular system, yield a much larger quantity of moisture (*i.e.* perspiration), which of course finds its way out on to the surface of the skin and there accumulates. This is called sensible perspiration. Insensible perspiration is that which is always being thrown off from the glands on to the surface of the body, but of which we are less conscious. Now in the case of active exercise, when the body is perhaps overheated and the perspiration very abundant, the moment of danger will occur after cessation of activity, and during the process of cooling. Evaporation tends to take place very rapidly; but, if wool is worn, it will be much less rapid, on account of its non-conducting properties. Thus the cooling effects will be very much delayed, and the body will more gradually adapt itself to the surrounding atmosphere. Not so in the case of linen or cotton. Neither of these substances will absorb the moisture, as in the case of wool, on account of their texture; and, as the body cools down and comes more into relation with the surrounding temperature, their wet surfaces will strike the skin with a chill and clammy sensation: gradually the animal warmth

will be lowered, and some more sensitive organ of the system than the rest, the structure of least resistance, will be attacked with inflammation. Countless thousands of colds, coughs, rheumatic and neuralgic affections, to say nothing of very serious organic congestions, are caused in this way, and most of them are preventable.

There are certain objections to woollen underwear which may be taken into consideration. We may dismiss at once the æsthetic view of the case, as one not coming within the province of sensible men and women. If vanity is to be the ruling passion of life, so much the worse for the unlucky individual possessed by it. If a young lady prefers to sow the seeds of disease in her constitution, rather than to strengthen and establish it by sensible dress, she must be allowed to do so, as this is a free country. We can only say, The pity of it ! But if the parents are sensible, and clothe their children from infancy onwards in wool, the question of vanity will never confront the young person at all. Custom or habit is second nature, and wool will be worn as a matter of course through life. One strong objection is a sensitive, irritable skin, which a good many people possess naturally. I think, in the majority of instances where this objection is put forward, it

is more imaginative than real, especially in young people. It is scarcely ever advanced by those who have worn wool all their lives. But, supposing it to exist, it must be taken into consideration. There are such beautifully fine, soft makes of wool and flannel now that the skin must indeed be tender and irritable which would be affected by them. But when even these cannot be worn with comfort I should advise that Indian gauze garments, a mixture of silk and wool of very fine texture, should be worn next the skin, and over this ordinary fine wool. Many women are under the impression that silk underwear of a heavy make is as good as woollen, and sufficiently protective against changes of temperature. I do not think this is conclusively proved ; but, at all events, it is too expensive an article of clothing to be recommended indiscriminately. Unbleached calico is better than linen or calico, but outstripping them all is the undyed wool. I must also protest against the blue, pink, and other pretty coloured woollen underwear which is replacing the undyed grey wool. For in the process of being dyed to these fancy colours, the wool loses much of its virtue ; and, moreover,—which is a consideration to a great number of women—it soon rots away and is good for nothing. It is an

expensive luxury to wear those pretty coloured garments, which have lost so much of their hygienic value.

Another objection brought against woollen underwear is that it is not so cleanly as linen or cotton. This is a great error. I think that Dr. Jaeger, who introduced the woollen underwear into this country some years ago, has conclusively proved, in his concise and scientific manual on the subject, that, as far as cleanliness goes, wool is far and away the most cleanly article of wear ; but, of course, it must be frequently changed. He does not think even this is necessary, if certain rules which he lays down are followed out ; but I prefer the frequent change of garment, and therefore recommend it. If the body is kept sweet and clean, as it should be, woollen undergarments will not be any less cleanly of wear than linen or cotton, especially when they are changed as often. There is nothing so objectionable as soiled underlinen, in my opinion. When we weigh up the advantages and disadvantages of wool, there can be no doubt that the former lowers the balance most considerably.

It should be worn as a combination garment, reaching from the throat to the knees or ankles, and to the wrists in very cold weather. A very

strong objection on the part of some ladies is that, if they accustom themselves to this form of garment, and in wool, they cannot suddenly leave it off in order to wear a low-necked, short-sleeved dress for a ball or other social function. Even the most feather-pated, giddy young girl seems to know that there are certain grave risks attached to sudden changes of this kind. Would that the danger could be so indelibly impressed upon all women that a fashion, which exposes the naked bust and arms, whilst covering the inanimate ground with yards of material, could once and for ever be relegated to the limbo of past idiocies, indecencies, and absurdities ! I am afraid it is hoping for too much, even in these days of liberal, enlightened educationalism. Fashion proclaims from the housetops that a woman is indecent if she, for the sake of convenience and cleanliness, wears a short skirt, to escape the mud and dirt of a London street, and shows an inch of well-covered ankle ; but she is decent, forsooth, if she bares her neck to the waist before the indifferent and critical public gaze ! I am not proclaiming against the absurd dictates of fashion on the ground of prudery, but in the name of health and common-sense. At the same time, there is much to be said on the score of decency and morality.

A combination dress of somewhat loose woollen texture will take the place of two or three of the old-fashioned garments. Only one petticoat need be worn with a combination, and thus weight upon the loins is avoided. In the winter, a warm woollen petticoat or divided skirt should be worn over a thicker combination garment. A bodice of some warmer material than linen might also be worn, to which the petticoat could be attached, thus relieving the hips of any weight whatever. In the summer, the woollen petticoat should be replaced by a lighter one, and the combination garment should be composed of a thinner wool. There is no kind of underclothing which, at the same time, provides warmth with avoidance of weight and bulk, better than a combination garment and one petticoat or divided skirt. We can quite understand why the women of a past generation disliked active exercise. They were too overburdened with petticoats, which fastened round the waist, to be able to move about freely. The weight of their skirts, long elaborately trimmed trains, and thin shoes and boots, were quite sufficient to make walking and other forms of exercise abhorrent to them.

Now we come to the vexed question of corsets. Should women wear these articles of dress, or not ?

I think we may say at once that children and young girls ought *not* to wear anything of the kind. But the clothes should be so made (and that is why I favour combination garments) that their weight is equally distributed over the surface of the body, and that neither the shoulders nor the hips should be allowed to bear them. During the whole period of growth, all garments should be worn somewhat loose, so that the surface muscles of the body are allowed free play. If the muscles of the trunk are constricted by corsets, even when not tightly laced, there will be less freedom of movement, and they (the muscles) will not have the same chance of full and vigorous development. The muscles of the back, which support the spine, and the muscles of the abdomen, are Nature's corsets.. They may be constricted to such an extent that they are rendered more or less useless throughout the whole of life. They are paralysed, diverted from their normal function. Perhaps this may be one reason why we see so many bowed backs and projecting stomachs on quite young people. Fortunately, gymnastics and a wiser sense of things are beginning to reject the old stupid unphysiological errors. As for tight-lacing, no words strong enough can be used

in its condemnation. If a corset is worn at all, it should be of the lightest possible make, without those terrible instruments of steel or bone which are seen on so many women ; and it should be *the exact size of the natural waist*. The slightest compression may in some cases be productive of internal injury, and in all cases prevents the proper use of the trunk muscles. There is, indeed, no reason whatever why slender, thin figures should ever require to wear any stays at all. They are far more graceful and natural without. A fat figure—one in which fat is more predominant than muscle, and in which the bust is pendent and wanting in firmness—requires some kind of support. Mr. Frederick Treves, the eminent surgeon, who has made a particular study of the dress question from a hygienic point of view, says: “I would not go so far as to say that stays of all kinds should be entirely given up, but would allow that in certain individuals a modified corset, slightly stiffened, and incapable of exercising constriction, is necessary for the sake of both comfort and appearance.” *

Let us see for a moment what happens in a far too great majority of cases. Stays are worn, say, from the age of sixteen. A waist has to be made.

* “The Influence of Dress on Health.”

Anything above twenty-two inches is considered vulgar and ugly. As a matter of physiological fact and artistic beauty, any waist under twenty-four inches should be looked upon as hideous and unnatural ; and twenty-four inches should be found only on a very slight and slender figure. An average waist is about twenty-six inches. But a woman five feet ten in height ought to have a waist not less than thirty inches, unless she is of extraordinary slenderness. Well, the waist of twenty inches is made at the expense of various natural functions. The lungs do not act properly at their bases ; the diaphragm, the large flat muscle which lies across the thorax and separates the organs of the chest from those in the abdomen, cannot move, is more or less paralysed. The stomach is compressed, and, when full, is jammed up against the heart, which cannot act freely ; and the whole of the circulation is affected by this feeble action of the heart : the digestion is interfered with, the liver is pressed upon and rendered sluggish, while the bowels become torpid in their action. Cold feet and hands, and red nose, due to the defective circulation and enfeebled digestion, are a constant source of suffering, and often render a wasp-waisted woman very miserable ; but her

waist is more precious than her health, and her false notions of beauty must be ministered to.

But still worse occurs. As the years roll by, what do we behold? The outraged internal organs, which have been thrust here, there, and everywhere, in order that the waist should be manufactured, begin to make themselves uncomfortably prominent. The abdomen, instead of remaining flat, begins to swell out. The bowels will go somewhere, and so they overcome the flaccid resistance of the semi-paralysed muscles which form their walls, and gradually push forward, until the youthful, slender shape is altogether lost. The shoulders and bust meanwhile have been thrust up under the chin and ears, the throat thereby shortened. No woman can keep any semblance of youthfulness if she has not learned how to retain her figure. When once that has gone, middle age has tripped up youth by the heels and laid it permanently aside. But thousands of women have anticipated their middle age, with all its unnecessary aches, pains, and groans, by outraging nature over a number of years, and ministering to a foolish vanity, fostered by a senseless, injurious fashion. Therefore, dear ladies, whose cause I wish to serve, abjure tight-lacing, and, if you will not do it for physiological reasons, do it

then for reasons of vanity. But I would prefer that you should do it for the sake of health and common-sense. I think, therefore, that the whole question of corset-wearing may be summed up in a few words. No children or young girls should be allowed to wear them at all. No woman, married or single, who remains slender, has any occasion to wear them, especially if her muscular system is well developed, as it should be. Any woman who has a tendency to *embonpoint* can, with advantage, wear some support, but it need not be a stiff suit of armour.

As far as the outer garments go, I am not so prepared to quarrel with the present system of dress as many of my reforming sisters. The only fault that I have to find with it is its length for outdoor wear. This is a grave matter. There is unmentionable nastiness on the pavements of a London street, besides the mud and dirt after a downfall of rain, and the dust of a hot summer's day. The bottoms of women's skirts catch up and carry all this accumulated filth about. They bring it into their houses, and it is deposited in various places. I must refer to one matter which I hope will not be considered out of place in a work on hygiene. Men (and even gentlemen, I regret to say) have a horrible habit of expectorating all over the London

pavements. I suppose it is due to their constant habit of smoking, which excites the flow of saliva. In many instances, this sputum is ejected from consumptive lungs, and contains quantities of the tubercle bacillus. There is nothing so difficult to kill as the tubercle bacillus ; and all physicians now know that, when inhaled by lungs having a predisposition to tuberculous disease, they may become infected in this way. Women's skirts are constantly sweeping up these various objectionable matters from the London pavements, and they may thus become a means of spreading tuberculous disease.

Introduction of short skirts, such as the Eillitto, lately invented, would obviate any possibility of the kind, and also give women freedom of movement in the feet. I think the present plain tailor-made gown, reaching to the ankles and leaving the feet free, could not be improved upon. In the house, longer skirts might be worn, if desired. Many women look more graceful in long flowing draperies than in short skirts. I do not think we need lay down any hard-and-fast rule about indoor costume, if it does not overstep the limits of decency and common-sense. If women followed more their individual taste, and less what fashion proclaimed, a larger number of them, I think, would be more

becomingly dressed. Even when our better sense revolts against a newly-invented fashion, we follow it like sheep, because we are afraid of being different from others.

If the short skirt is introduced, either high boots or gaiters should be worn in winter, to keep the feet and ankles warm, and, as in the Eillitto costume, knickerbockers of the same material as the dress, to obviate the use of petticoats. But the dress might always be modified by individual wearers to suit their taste. Some would prefer a petticoat to knickerbockers, and others the divided skirt. In this matter of dress, I am thinking more especially of the thousands of women who have to do a great deal of walking whether they like it or not ; of the women who cannot afford to drive in any other carriage than the public conveyance, at a penny the mile. Nothing is so much fraught with danger as sitting for hours with damp skirts surrounding the ankles and feet. Many a young governess, board-school teacher, work-girl, art student, has to put up with this kind of thing. The health is gradually undermined by such means. The weak spots in the constitution are found out and attacked. If shorter skirts were adopted, which did not touch the ground, many days of preventable illness would

be avoided ; and the walk, which numbers now look upon with abhorrence, because of its attendant discomforts, would be regarded as one of the most healthful and delightful of all exercises.

As an article of wearing apparel, I cannot recommend the use of furs in our temperate climate. They are extremely convenient, and even necessary, during a long cold journey, when the body is in a forced state of inaction, and when artificial heat of some kind or other is absolutely essential, to maintain the temperature of the blood. But the weather is rarely cold enough in England to justify their use as a general habit. Fur is non-porous and heavy. The skin perspires very freely under it, if the body has been in active exercise. Evaporation cannot take place, and thus chills are very frequent. The system is also rendered very susceptible to cold by the use of fur cloaks, jackets, and boas. People who are in the habit of wearing furs during the winter feel the cold far more keenly than those who wear woollen clothing. The latter is much lighter, more elastic, and more porous, and far healthier for a temperate climate. Children and young active people should on no account be allowed to dress in furs. Their constitutions may be permanently weakened by this means.

Cotton and muslin dresses may be worn during a few bright, sunny days in the height of summer, especially if woollen underclothing is worn. One great advantage of the latter is that much lighter outer clothing can be worn all the year round. But during an inclement chilly summer there is nothing which is at the same time so suitable and so truly hygienic as some form of light woollen cloth or serge. Cotton dresses often have a very woe-begone appearance on a dull summer or autumn day, and no combination of clothing is so truly hideous as cotton or muslin with fur or plush. And yet one sees it constantly in England. There is neither common-sense, health, nor good taste in it. If the atmosphere is chilly enough to make a woman feel that she must put on a fur garment, then certainly she ought not to be wearing a cotton or muslin dress. A woollen serge or tweed would be much healthier and more appropriate. Such a combination as the above would never be seen on the well-dressed Continental women, but it is frequently seen in England on even wealthy and fashionable women. The English have still much to learn in the matter of becoming, artistic, and appropriate dress. Although I by no means indorse all the absurdities and excesses of French female fashions, yet I must

acknowledge that a middle-class Frenchwoman, and certainly a working-class Frenchwoman, is far better dressed than her sister of the same class in England. Nothing can be more ugly and out of place than the dress of the working-woman in this country : it is a disgrace to our civilisation, and does not at all prove, in its attempt at meretricious finery, the absence of class distinction. In France, where every man and woman, from the President downwards to the *roturier* or *grisette*, is Monsieur or Madame, and where there is no aristocracy but that of intellectual pre-eminence, the workers are not ashamed to don a costume in which they can do their work properly. In England, where class distinctions are, and for all we know may always be, very marked, the working-woman at her washtub dresses in some cast-off costume which has probably adorned the person of a duchess at some time or other. The whole system is uneconomical, unbecoming, and slovenly. Each one should dress according to the work which he or she has to do in life, irrespective of what is worn by wealthy and fashionable women, who can afford a different costume every week of their lives.

Boots and shoes are important articles of wearing apparel. I doubt whether sufficient attention is

paid to the subject, from a hygienic point of view; certainly not from the point of view of the beautiful. I venture to assert that scarcely five women in a hundred have well-shaped feet. Why? Because their feet have been ruined by the boots and shoes which they have worn during the period of growth. The toes have been crushed into a shapeless mass having the form of a cone, the nail of the big toe being in affectionate contact with that of the small toe. The bones of the foot have been crushed and deformed, and the base of the big toe projects into a huge bunion. The arch of the foot, which should support the weight of the body, is hopelessly lost; and a flat-footed appearance presented, which mars all approach to beauty. Pointed toes and high heels have done as much as anything to injure the natural form of the foot; but, in a large majority of instances, the injury has been effected by the shapelessness of the boot or shoe, and the inferior quality of the leather used, both for uppers and soles.

A boot or shoe should be made as nearly as possible to conform to the shape of the wearer's foot, and with sufficient width across the toes to allow of their being freely moved. In after life, when rheumatism or gout begins to make its presence felt in the system, it generally settles in the lower

extremities first, and is always more acute in the feet of those who have worn instruments of torture half their lives, instead of properly shaped boots and shoes. The soles should be moderately thick, and always waterproof. High heels are an abomination, artistically and hygienically; but Mr. Treves thinks that shoes require heels of some kind. I am inclined to agree with him. There is no walk so ugly and ungraceful as the flat-footed walk; and it must necessarily be so, unless the instep is beautifully shaped and very high. This is an extremely rare possession. The large majority of people are flat-soled. To test the height and arch of the instep, the foot should be put into water, and then placed flat upon the dry floor, whilst the person is standing up. If two patches of wet remain on the floor after removal of the foot, the larger one representing the upper part of the foot and the smaller one the heel, with an almost dry intervening space between, the person may rest satisfied that she possesses a really well-shaped foot. A man or woman with well-shaped feet does not require much of a heel to help him or her to walk firmly, gracefully, and in a straight line. But a moderately low heel, in proportion to the thickness of the sole, and also of the same width as the boot, is a great assistance to the flat-footed

fraternity, whose name is legion. Very high heels throw the body out of the perpendicular, and oblige a person, by the natural position of the bones of the foot, to walk constantly on tiptoe. This mode of locomotion is fatiguing, to say the least of it, and ridiculous, unless one is graduating as a ballet-dancer. Then, again, the foot is thrust forward into the upper part of the boot, and the toes are crushed together and corns formed. No person ever suffers from corns who wears well-shaped boots. Also, many muscles and ligaments are brought more prominently into action than they should be, whilst others, which ought to be acting, are not doing so at all. The muscles of the calf and forepart of the leg are weakened or act irregularly, and the bones and ligaments of the ankle are very often sprained and thrown out of position by the above-mentioned consequences of high heels.

When ladies express a dislike for active walking exercise, their boots and shoes and the shape of their feet should always be examined by the physician. The results of the examination will often throw a flood of light upon the ailments of their patient. People with any tendency to gout or rheumatism should be particularly careful about their boots and shoes, for Nemesis awaits them if they are not; and cripples they will become.

Young ladies should not walk about the damp streets and on wet grass in their shoes. It seems superfluous to make such a remark ; but thousands do it, and are laid up with colds, coughs, bronchitis, rheumatism, and various other complaints, as a result.

Until we reach womanhood, the shoe is preferable to the high boot as a foot-covering. The former allows the free, full movement of the ankle, with development of the ligaments. It is often supposed that a high, stiff leather boot strengthens the ankle. Erroneous notion ! Exercise and freedom alone strengthen the ankle-joint, and therefore, during childhood and youth, the shoe should be worn ; moreover, the shoe allows a better chance for evaporation to take place when the foot is perspiring, and also freer access of air. It is, besides, less heavy to lift than the boot. Certainly during warm weather the shoe is far preferable ; probably during cold and rainy weather, with skirts reaching the ankle, the high leather boot would be something of a protection from damp and wet, and would tend to keep the feet warm.

Appropriate dress should be worn on all occasions requiring the active exercise of the body. In rowing, the upper part of the chest is in full activity, the lungs respiring more deeply than usual, and

the muscles of the arms and chest in strong contraction. To profit by rowing, which is an extremely healthy pastime when not overdone so as to strain any internal organ, a loose costume of soft warm texture should be chosen. Stays should be left off, and what is known as a Garibaldi jacket, of flannel or serge, should be worn. This can be made very becomingly in sailor fashion. The belt, of course, should not constrict the waist, so as to interfere with the deep movements of the diaphragm. A slender, graceful figure would always look well in such a costume, and one which was not slender and graceful would not be improved by an ordinary dress for rowing purposes.

The dress which has been adopted for the various gymnastic systems is admirably adapted for the purpose. It is composed of jacket, knickerbockers, and short skirts, of dark blue serge, trimmed according to taste. The great end to achieve in dress of this kind is lightness, warmth, and compactness. The skirt even might prove an encumbrance in vaulting exercises, and might with advantage be dropped. The knickerbockers and jacket or bodice might also be joined together by a band, so as to avoid the necessity of hanging anything from the loins, or constricting the waist in any way. In gymnastic

exercises nearly every muscle of the body will be more or less in action, and of course the respirations will be fuller and deeper,—thus corsets are contra-indicated.

There seems to have been a great difficulty in the choice of a suitable hygienic costume for those who cycle. Although the pastime is largely on the increase amongst women, I cannot frankly say that I think it is altogether a becoming or graceful exercise for them, or even for men. It may be healthy, but it seems to me to develop the muscles of the lower limbs at the expense of the chest and upper limbs. And I have a strong objection to the attitude which cycling necessitates. Every cyclist, male or female, bends forward to such an extent that the whole of the trunk is in a slanting direction, and remains so all the time he or she is working the machine. The back is rounded, and the chest consequently contracted. I do not consider that this is either a healthy or a graceful attitude, but many may be able to obviate or modify this difficulty. And to those ladies who like the exercise, and have found great physical benefit from it, I should strongly recommend the excellent costume which has been patented by a skilled lady cyclist, Mrs. Behrens.* It has been highly spoken

* Newfield House, Forest Hill, S.E.

of by many of the cycling journals, and seems to me to fulfil every condition required. It is a combination of petticoat and divided skirt ; but the pattern must be seen to be appreciated. I have no doubt that Mrs. Behrens would be happy to send it to any one requiring it for cycling purposes.

In conclusion, the end that clothes serve should always be kept in view by sensible people. They should serve as a protection to the body against changes of temperature and external injury. They should be made to suit each one's individuality and occupation in life. They should be worn for purposes of decency, although the learned and worthy Teufelsdröckh would have us believe that "the first purpose of clothes was not warmth or decency, but ornament." There is no reason in the world, excepting the ascetic (which we can dismiss), why the ornamental or decorative should not enter into our consideration of clothes. As the same great philosopher says, "Again, what meaning lies in colour? From the soberest drab to the high-flaming scarlet, spiritual idiosyncrasies unfold themselves in choice of colour. If the Cut betoken Intellect and Talent, so does the Colour betoken Temper and Heart. . . . Every snip of the Scissors has been regulated and prescribed by ever active

Influences, which doubtless to Intelligences of a superior order are neither invisible nor illegible." Apart from the beauty of Nature, which but few can enjoy, there is such a lack of beauty in our every-day lives that only a sour-minded Puritan, who has no sense of the beautiful at all, or desire for it, would care to see all attempts at beauty in dress banished. There is no reason why beauty of material, colour, and cut, should not be sought after, and, if it can be combined with convenience and comfort, so much the better for our happiness and enjoyment. Much of the health of human beings is dependent on their means of enjoying beauty in whatever way it is presented to them, and therefore, from a hygienic point of view, I hope that gentlewomen will always keep an eye to the becoming and beautiful in dress; but let it be true beauty, and not its meretricious counterfeit, which but humiliates and degrades them.

THE SKIN AND COMPLEXION.—CLEANLINESS.

The hygiene of the skin is a subject of no little interest and importance. A bad complexion renders many women's lives miserable to them, and they are not to be consoled by the very obvious fact that thousands suffer like themselves. If there is one

thing more than another which firmly establishes a woman's reputation for beauty, it is the possession of a beautiful complexion ; and there are probably very few things which are more beautiful. But let me hasten to say, at once, that a beautiful complexion *cannot be made*. Can the Ethiopian change his skin, or the leopard his spots ? Neither can a woman, born into the world with a naturally dusky, sallow, or mahogany-coloured skin, hope or expect to change it by cosmetics, washes, powders, or paints. Instead of improving it by these means, she will, on the contrary, gradually make it worse and worse, until in despair she leaves it all off and settles down into a grey and discontented woman.

The constitution and temperament have much to do with the texture and general condition of the skin, and the colour of the complexion. The people of sanguine temperament, choleric disposition, gouty constitution, generally possess fine white and red skins, which are very dazzling during childhood and youth, but towards middle age become florid. There is a tendency to enlargement of the venous radicles of the skin of the face, which gives a streaky, purplish-red appearance. Such people flush very easily, and the deepening of colour is not confined to the cheeks, but spreads all over the

face. Women who possess this kind of skin, due to their hereditary constitution and natural temperament, should be very cautious in their manner of living as they approach middle age. Hot strong drinks, such as tea and coffee, especially the former, should be avoided; and there should be total abstention from alcoholic stimulants, which tend to enlarge the smaller blood-vessels. Diet should be plain and spare, even ascetic; and a great deal of outdoor exercise should be taken. The French say, *Il faut souffrir pour être belle*; and I have no doubt that such a regimen will not be appreciated by a large number of ladies, but it is only on these conditions that the skin can be prevented from losing every trace of its pristine freshness, bloom, and beauty.

The people of scrofulous phlegmatic type are generally possessed of dull, earthy-looking skins, which are peculiarly liable to skin eruptions. The skin is thick and the glands inactive. There is often a superabundance of fatty secretion, and but a limited amount of watery exudation. Even when persons of this type are scrupulously clean, they do not convey that impression to others. Sedentary habits, poor living, unwholesome surroundings, unhealthy occupations, will not only make a skin of this kind worse, but will very often produce it.

Hygiene must be the rule of life in such cases. Every woman with a natural tendency to the “phlegmatic” skin must engage in active occupation, and leave sedentary pursuits to the people of rapid circulation and highly vitalised energy. She should row, ride, swim, walk, play lawn tennis, and pass a great deal of time in the open air. She must *develop* energy. It is the only means by which she can counteract the natural effects of a phlegmatic constitution, which is represented by the dull, colourless skin and complexion. Fortunately, it is not very frequently seen in England, where our women can, as a rule, boast of possessing fine and healthy-looking complexions.

The lymphatic temperament (as distinct from the phlegmatic) is very often represented by a skin of more or less satiny texture, and of a uniform whiteness or cream colour. In some instances it may be beautiful, but in others the skin has a flabby appearance, and the whiteness is dull. Such skins are very often seen in association with anæmia, which is a common enough complaint amongst the lymphatic type of persons. The blood is constitutionally poor; and it is only by unfailing attention to the general health that the blood is improved, and secondarily the skin. A long course of waters,

in which arsenic and iron are found in solution, is often productive of the greatest benefit in such cases. Also, a sea voyage is very beneficial, because the air, containing ozone in a larger proportion than inland air, is invigorating and health-giving.

The bilious constitution is generally accompanied by a dark and very often sallow complexion. . When the digestion is out of order, the liver sluggish of action, the skin assumes a yellowish tint. Great attention has to be paid to the diet, all excesses of the table rigorously eschewed, and plenty of physical exercise indulged in. Riding or walking is the best kind of exercise under these circumstances.

People of nervous or mixed temperament have skins which may be of thick or fine texture ; dark, fair, or medium in colour. They may be good, bad, or indifferent, according to the general health of the individual, and very often vary from one time to another. Emotion or mental excitement of any kind will affect the skin of nervous people much more than that of the lymphatic, phlegmatic, or sanguine type of individual. As a matter of fact, there are many skin complaints of purely nervous origin, which disappear when the cause of the nerve disturbance has been removed. Such complaints are much more often met with in persons of the

nervous temperament than in others. The skin is changeable in its appearance in nervous people. At one time it will look clear and fine, bright and rosy; at others, dull, heavy, pallid, and colourless. These changes are often dependent upon the emotional condition of the person at the time.

The skin is one of the most important physiological organs of the body, having numerous functions to perform. It regulates the temperature of the body by radiation and conduction; it removes a large amount of waste material from the body, through its marvellous system of sebaceous and sweat glands; it serves as a covering for the organs and structures lying underneath; it is the means by which we acquire our impressions of touch, temperature, pain, through its elaborate nervous apparatus; it acts as an absorbent of various substances brought into contact with it; and it assists certain internal organs, such as the lungs and kidneys, in throwing off impurities from the blood. When we consider for a moment the structure of the skin, with its miles of nerves and blood-vessels and sweat ducts, its two millions of secretory glands, we can only marvel that accidents to it are not far more numerous, and that we see as many healthy skins as we do.

The skin requires for its healthy maintenance three essentials,—cleanliness, air, and exercise. It seems superfluous that one should have to lay stress on the importance of cleanliness in a book which will circulate amongst gentlewomen;—women of education and refinement; but it is an undoubted fact that, in a land where the bath seems an established domestic institution, cleanliness in the full sense of the word is understood but by few people, especially women. In this respect men are far in advance of women. I have been astonished at the habits of women, calling themselves ladies, as far as cleanliness is concerned. Many of them were not possessed of the most elementary notion of it. So long as the face, throat, hands, and any portion of the body which would be visible were clean, the rest of the skin was left to take care of itself, as if it were not an integral part of the same structure.

Young girls and schoolgirls are great offenders in this respect. Either the notion of the importance of cleanliness has not been early instilled into their minds, or they are so driven with lessons that they cannot spare the time to look after their bodies. It is not astonishing, therefore, that so many young girls suffer from acne (pimples) and comedones (blackheads). Very often these disorders of the

skin arise from indigestion, sluggish action of the liver, constipation, or want of exercise, but not infrequently from uncleanness. Why? The skin through its millions of glands is constantly secreting and excreting a quantity of water and sebaceous or oily matter, with urea and other organic products. All this is deposited on the surface of the skin. The watery part is removed by evaporation, but the fatty and organic substances are retained on the skin. In time, as more and more of this matter is deposited, it clogs up the entrances and ducts leading to the glands, and undergoes rapid decomposition in common with all animal matter. It also combines with the dust, dirt, and other organic impurities which impregnate the atmosphere, especially the atmosphere of large towns. If frequent washings and bathings are not indulged in, so as to get rid of all this impurity, and to keep the pores of the skin free, it will soon begin to look uncared-for and neglected, and, what is more, will contract an unpleasant odour.

To retain the skin in anything like good order, to keep it wholesome, fresh, and healthy, every square inch of it *must* be cleansed at least once a day. A weekly bath is not sufficient. And it is not only a question of the health of the skin, but of the whole

body. The morning bath means vigorous action of the whole of the muscles of the body for a certain length of time. This increases the activity of the circulation and of the heart; it corrects sluggishness of the bowels and torpid action of the liver; it braces up and invigorates the nervous system; it gives tone and firmness to the muscular system; indeed, there is not an organ, tissue, or structure of the body which does not participate in the beneficial effects of the morning bath, and it ought not to be neglected by any gentlewoman who has a respect for her physical health. *Dirt anywhere on the body is a source of discomfort, and its presence demoralises. I cannot believe that a high moral tone is compatible with an unclean skin. A scrupulously clean person may not possess good morals, but it is almost next to impossible for a dirty person to be moral and pure. I am not now talking of the dirt which is the outcome of a dirty occupation, such as sweeping or scavenging, but of that uncleanness due to neglect of soap and water, which is very often found amongst languid and fashionable ladies, who clothe themselves in purple and fine linen. Numerous ailments, from which women now suffer, would disappear if they regularly took their morning bath.

It is not only the action of the water itself which is so beneficial to the skin : it is the friction which follows the wash. This should be performed with a rough or Turkish towel or with a flesh-brush, after the skin has been thoroughly cleansed in lukewarm water. It is only during the very hottest days of summer that the cold-water bath can be recommended in this country for the great majority of women, and in the winter it should never be used. The shock to the system is too great to be borne. The towel or brush should be used from five to ten minutes, and the dumb-bells for the same length of time, should it be difficult to obtain necessary physical exercise in other ways during the day. Many women, who are, from force of circumstances, obliged to lead a sedentary life, would find their physical systems much benefited by the half-hour spent every morning regularly in washing, rubbing down the body, and using the dumb-bells or any other gymnastic apparatus which suited them. In addition to the morning bath, a warm bath could, with advantage, be taken once or twice a week at night-time ; and persons of a rheumatic or neuralgic diathesis may use the Turkish-bath occasionally.

It is said that there is no royal road to learning ; neither do I know of one for the obtaining of that

much coveted possession, a good complexion. This admission will be a great disappointment to my fair readers, but let us face the truth before all things. I have no magic medicinal nostrum of which I can say, "Use this, and from henceforth your skins will be rendered smooth, fair, and transparent, and wrinkles will never appear upon them, or, if they have done so, will disappear." I can say only that the healthier you keep your whole bodies, the better your skins and complexions will be. The more firm and vigorous your muscular system, the more tardy will be the appearance of wrinkles; therefore see that your muscles are kept in good condition and have plenty of exercise. The better the condition of your stomach and liver, the less will you suffer from those forms of skin complaints which are due to a disordered digestion; therefore do not impair the digestion by indulging in highly spiced dishes, rich sauces and gravies, pastry, sweets, alcohol, strong tea and coffee. Live simply; rise early; eschew late hours, crowded gatherings, and hot, gas-lit rooms. Pass as much time in the open air as possible, and fast once a week. (Fasting is a practice which has fallen very much into disuse amongst Protestant Christians. It should be reintroduced, for the sake of the health

of the community, if not for a spiritual purpose. It is an admirable custom. It teaches self-control, and counteracts the effects of over-eating, indulged in by far too great a number of the well-to-do classes.) Avoid too much mental excitement (a little is necessary and wholesome) and mental worrying. Keep the mind occupied in a serene yet pleasurable manner. Chase away depressing thoughts and ideas. Do not indulge in the luxury of weeping for trivial causes. Do not allow yourself to grow hysterical or anæmic. Control all your passions and to some extent your emotions. Let your life be usefully occupied, if not in your own service, in that of your fellow-creatures. If the foregoing counsel, put into resolute practice, does not achieve the ardently desired end, I am afraid that nothing else will.

There are, perhaps, one or two more articles of advice which I might offer with regard to this subject, so important to the majority of fair women. Avoid the use of cosmetics, paint, and powder. They always impart an artificial look to the countenance, which is anything but pleasing; and, moreover, they in time completely spoil the complexion, producing an earthy, dull, and soddened appearance. A little harmless face-powder (one that does not contain

minerals) may be used now and then, to ward off the effects of a harsh east wind or the direct rays of a hot sun; but under any other circumstances it is injurious and unnecessary. These agents clog up the delicate pores of the skin, and prevent the free action of the sebaceous glands. Thus the impurities, which I have already described, instead of being cast off by the skin, are retained and thrown back into the system, very often causing numerous skin disorders and other affections. The pores also become enlarged; and eventually the skin loses its delicate and satiny texture and appearance, and grows coarse and discoloured. If minerals, such as lead or arsenic, are present, they exercise a most prejudicial effect upon the delicate nerve endings and nerve filaments of the skin, probably producing a kind of paralysis, which prevents them from acting normally upon the muscular fibres of the bloodvessels which nourish the skin and regulate its temperature.

A word with regard to the indiscriminate internal use of drugs, so often indulged in by large numbers of women, to improve their complexions. I have no language strong enough to condemn such a practice. No physician of repute will lend himself or herself to it, and women knowing this credulously turn to the advertised nostrums with which the

columns of the daily papers teem. Many a stomach has been ruined and nervous system disorganised by the use of these drugs; and they never, to my knowledge, produce the effect of which their manufacturers and advertisers boast. I believe more injury is fraught to the human system by indiscriminate drug-taking and alcohol combined than by all the myriads of bacterial germs which have ever been or ever will be discovered. Those who wish to preserve a healthy skin, or to obtain one, will sedulously avoid the use of advertised medicines, of which they know neither the ingredients nor the composition.

BATHS AND BATHING.—SOAP AND WATER.

I would say a few words with regard to this subject, apart from the question of cleanliness. Some people get a "tic" about things. They hear or read that water applied to the body is a panacea for every disorder. They rush madly to apply it to themselves in the form of baths, taken sometimes as often as two or three times a day. If there is much to be said against neglect of the bath and the daily wash, there is also very much to be said against over-indulgence in a wholesome and necessary custom. As the late Sir William Gull said, "Some people

wash away all their vitality"; and it is true in a great many instances. The skin is a highly vitalised organ, and, necessary as it is to keep it as pure and sweet as possible, it should not be over-stimulated. Over-stimulation is always followed by a reaction, the *depressant* effects of which are very marked on the physical system. I knew a young lady who had the water-tic. She indulged in a *hot* bath every night of her life before going to bed, and took a cold one every morning. She gradually fell into a highly hysterical, nervous state, and persistent insomnia was one of the most alarming of the symptoms. After she had been persuaded by her physician to leave off the nocturnal hot-water bath, and to take a lukewarm bath only in the morning, she was gradually restored to health. But persons with a highly-strung nervous system, as this young lady had, might in time wash themselves into a lunatic asylum, if the habit were persisted in.

With regard first of all to the water itself. It should, for the benefit of the skin, be soft. Soft water not only exercises a soothing effect upon the cuticle, but it also much more easily and quickly removes impurities without the aid of so much soap and friction. Clean rain-water (rain-water filtered) is the most delightful and refreshing of natural

cosmetics for the skin. It is not easily to be obtained, unfortunately, by those who live in towns. It is a luxury. But those who value a soft and velvety skin, and wish to experience the delightful feeling of pure cleanliness, will manage to obtain soft water by some means or other. London water is hard, and no little amount of trouble has to be taken to render it soft for washing purposes. Some skins (especially babies') are very susceptible to hard water, the soluble salts of which cause great irritation, roughness, and tenderness. It should be softened either by boiling, distillation, or reduction of its salts by lime water (if the hardness is due to the carbonates of lime and magnesia), or soda (if the hardness is due, as it often is, to the presence of the sulphates of lime and magnesia). When the water to which the soda has been added ceases to be milky, the sulphates have been precipitated as insoluble carbonates. . But probably distilled water is, if not the easiest to procure, the best kind of soft water to use. It is clean and perfectly pure. If householders would utilise the steam which is given off from the kitchen boilers, and is, as a rule, wasted, they might have a constant supply of distilled water. It should be received into a proper receptacle, situated in some cool place, by means of

a spiral tube, through which the steam would find vent from the boiler.

The Cold Bath.—As I have before stated; the cold bath cannot be universally recommended, especially in this climate. It ought to be used with the greatest discretion. Some people try to overcome a natural repugnance which they have to the cold bath and bathing in the sea. They will suffer from depressed circulation, “goose-flesh,” cold hands and feet, and general feeling of *malaise*, rather than acknowledge that cold water is not suited to their constitution, or that they are too weakly to throw off the effects it has upon them. Many and disastrous illnesses have been brought about by persons of weakly constitution trying to persist in obtaining the benefits of the cold bath. Where, of course, there is any congenital tendency to consumption, bronchitis, heart disease, rheumatism, the cold bath may prove disastrous. For those whose every organ is perfect, whose muscular system is well developed and vigorous, whose nerves are hardy and more or less insensitive, and, above all, whose circulation is full and sound, the cold bath may be productive of the greatest benefit. Such persons will be able to indulge in it all the year round, to break the ice upon the water in winter, and to swim

in the Arctic seas in the summer ; but I venture to say they are few and far between, and very few women are amongst the number. Even given the constitutional conditions necessary for the physical benefits of the cold bath, it should not be adopted all at once, but led up to gradually. It should be begun during the hottest days in summer, and then it need not be discontinued when the colder weather sets in. A very valuable alternative to the matutinal cold bath, especially for children and young people, is a sponge bath, with the water at about 85° to 90° Fahr. After the body has been completely and vigorously washed, a stream of cold water should be allowed to run down the spine and over the body for the space of about half a minute, and immediately afterwards the whole of the skin should be quickly rubbed with a Turkish towel. If this is followed by a universal feeling of warmth, and the surface of the skin feels warm and looks ruddy and smooth, a real physical benefit has been obtained, and the performance may be persevered in all the year round.

Sea-bathing is another treacherous mode of seeking health, which has very dubious results in many instances. There is always a temptation to stay in the water too long a time : hence follow fatigue,

chill, physical depression: When the sea bath is followed by chattering teeth, pallid skin, shaking hands with dead fingers, and a feeling of internal cold, which the administration of brandy or a long walk does not correct, the conclusion to be drawn is that the bath has done more harm than good. Women and girls who do not know how to swim should never remain in the sea longer than ten minutes, and, in a large majority of instances, that is five minutes too long. Many sad and preventable accidents have been caused by the limbs being suddenly seized with cramp, owing to the low temperature of the water affecting the motor-sensory nerves, which govern the muscles. Young girls should be particularly warned against taking a sea bath, or, indeed, any cold-water bath, at certain periods, as years of illness and suffering have been caused by doing so in ignorance of its effects. Little children should never be thrust into the water against their will. Lifelong nervousness and physical fear have been engendered by this cruel and senseless disregard of a child's natural feelings. Cowardice cannot, and indeed ought not to be, overcome by any such unmeaning and unnecessary methods. And a weakly child was never made strong by such means. If a very young child

exhibits a desire and love for the water, and soon overcomes any natural fear which an immense body of water like the sea produces in even the least sensitive, then a sea bath of three or four minutes will be productive of the greatest benefit to its system; but it were well that 'twere done quickly.

. The sea bath—or, indeed, any bath—should never be taken on a full stomach. It is best taken in the early morning, before breakfast, or from two to three hours after that meal, followed by a brisk walk of some few miles. A glass of milk, or a cup of cocoa or bovril, with a biscuit or slice of bread and butter, might be taken immediately after the bath. In reference to remaining a long time in the water, it must never be forgotten that water is not the natural medium for man to live in. The air is man's natural medium, as water is that of the fish. There are some few people who every now and then seem to put natural laws at defiance, and accustom themselves to a wholly unnatural mode of life. Such people will starve themselves for fifty days (and a civilised Christian community stands stolidly by and looks even approvingly on at the slow suicide); others will remain in the water hours at a time, until the whole vitality is fatally exhausted; and still others will endeavour to live in airless holes,

and engage in unhealthy occupations, which deprive them of life at an average age of twenty-six. But man never sinned against the natural order of things without having to pay the full and sure penalty of his ignorance and wantonness. A bath, or bathing, within reason, is one thing; constant immersion of the body in water is another, and its effects may fall within the category of physical sins.

The Hot Bath.—The hot bath, by which I mean one which ranges from 104° to 112° Fahr., is a powerful stimulant; it is also a wonderful remedial agent in many sudden and grave disorders; but it may no more be recklessly indulged in than any powerful drug in the pharmacopœia: it should indeed be used only on medical advice. Sudden immersion into very hot water will often produce as injurious results upon the system as sudden immersion into ice-cold water. It has been known to cause death from sudden stoppage of the heart's action, due to shock to the sympathetic nerve ganglia supplying that organ. Hot water induces copious perspiration. It acts by relaxing the nerve fibres of the skin, which cease to exercise the irregulating action over the sebaceous glands and the vascular system. Blood pours in much larger quantities through the relaxed

blood-vessels of the skin, and a great deal of water is secreted, which collects on the surface of the skin. In cases of uncomplicated congestion of any internal organ, the rapid action of the skin by means of the hot bath is productive of the greatest benefit. A commencing cold is often warded off in the same manner ; but care must be taken that the perspiration, which is induced, is not checked or thrown back into the system. This is often the case when a person, after taking a hot bath, puts on a calico nightgown, and gets into a bed between cold sheets. The skin is checked in its action by the far lower temperature of the nightgown and sheets, and also by the nature of their texture. In order to obtain the full *medicinal* action of the hot bath (and it should be taken for no other purpose), the body should be completely wrapped in a soft blanket or flannel nightgown, and the bed should be thoroughly warmed before being entered. It would be preferable to lie between blankets, in order to procure the full effects of the bath. It is always advisable not to take a hot bath during the day, or before going out into the open air, especially during the winter.

.. In cases of great muscular fatigue and exhaustion, the hot bath may prove of incalculable benefit, also

in muscular rheumatism ; but in the latter case it should be followed by properly applied friction, either with the naked hand or with a flesh-brush. In some cases of insomnia, due to brain excitement (determination of blood to the head), a hot bath, by withdrawing the blood from the brain to the vessels of the skin, will often be highly beneficial; but it should only be taken in such instances after medical advice, otherwise it may do more harm than good.

The Warm Bath.—The warm bath ranges from blood-heat, 98° Fahr., to 102°. It can be indulged in by the great majority of persons with far more impunity than the hot bath, and is, on the whole, very refreshing and cleansing. It generally exercises a sedative effect upon the system, and therefore is most useful in cases of over-excitement and temporary attacks of sleeplessness. Children are much benefited by the warm bath; and it can be taken pretty frequently by them, although just before going to bed is always the best time.

A naturally dry, inelastic skin, which does not perspire freely or even normally, derives much benefit from the warm bath ; and persons labouring under temporary mental irritation or nervous excitability will often find a warm bath most soothing to the

entire nervous system; but it should not be taken as a regular substitute for the morning vigorous wash in tepid or nearly cold water. It is only required occasionally by people who are healthy and who enjoy their matutinal bath, which I have already described at some length. For the great mass of the people, to whom a bath of any kind is a luxury, the warm bath once a week is absolutely essential, for the proper maintenance of health. Ladies who are the heads of large establishments should make it a rule that those who serve them, *especially nurses*, should take their warm bath weekly. Many girls, brought up with cleanly customs and in respectable homes, are as particular as ladies in their personal habits; but a large majority of them do not know or understand the physiological importance of cleanliness, and neglect themselves shamefully. The nature of their work induces very often excessive action of the sebaceous glands, the water, saline and animal matter of which is deposited on the underclothing, and remains in contact with the skin. Unless it is frequently cleansed, a very unpleasant state of things is the result. All nurses in attendance on young children or invalids should be most particular in their personal habits. They should wash all over every day, and in addition take a warm bath weekly,

and change the under-garments frequently. A nice white, clean dress, with a spotless apron, often covers a multitude of sins. Ladies should be most particular in their inquiries with regard to the personal cleanliness of those who are to have the charge of their young children and the care of their households. The effects of uncleanness are insidious, and oftentimes untraceable, but none the less injurious and deadly.

Soap.—Does the body require soap as well as water to keep it sweet and clean? There must have been a time in the history of man—it seems to be more than two thousand years since—when nothing except water and friction was considered necessary for the purpose. The origin of soap, and its all but universal use at the present day, would form a very interesting and profitable study for the hygienist. It might at the same time answer the question which heads this paragraph. Courageous would be the man and woman who nowadays should endeavour to keep themselves thoroughly clean without the aid of soap. For those living in towns it would, I venture to say without fear of contradiction, be an absolute impossibility. The dust and dirt of the atmosphere settle on the skin and mingle with its fatty secretion, and cannot be successfully removed without the application of soap.

Therefore I sing its praises. But it should be free from deleterious matter ; and very few soaps, I am afraid, are wholly unadulterated. It is a well-known fact that many of them exercise a most injurious effect upon the skin, especially the sensitive skins of women and children, and are productive of various skin complaints. I cannot make this manual the means of advertising any particular soaps manufactured at the present day, but I may say that there are one or two varieties in the market which have a solid and well-earned reputation for excellence. But, in the use of any kind of soap, a liberal supply of water should always accompany it, in order to reduce the irritating effects of the alkali, which is set free from the soap by the united action of the water and the oily products of the skin. Many rough, shiny, inflamed skins are due to soaps containing too large a quantity of soda or caustic potash, with which only a small amount of water has been used whilst washing. And, again, many soaps are manufactured from a very inferior quality of oil and fat, which are masked by some strongly scented perfume. Such soaps should always be avoided for washing purposes.

In the luxurious times of ancient Rome and Greece, the Roman and Greek ladies (and I believe the

custom is still largely followed by Eastern women) used to anoint the body with precious ointments and oils, having some special and beautiful odour. Doubtless these took the place of the modern soap, and proved quite as cleansing in their effects. But time is required for the use of such articles ; and, as a matter of fact, hours were spent every day by those ladies in the marvellous mysteries of their toilet. The wealthy and the idle did nothing else but attend to the cleansing, anointing, and decorating of their bodies ; and many slaves were employed in aiding them to attain physical perfection. Nowadays, women, even the richest and the most idle, would feel a little ashamed at spending so much time in the service of their body ; and so the unguents, lotions, perfumed oils and cosmetics have largely fallen into disuse. Possibly the skin was rendered beautifully soft, smooth, and clean by the application of these substances, and the constant attention bestowed upon it ; but I doubt very much whether the skins of any women in the world, at any time, were much superior to those we find in the United Kingdom to-day. For all those whose skin is at all tender and sensitive, and who cannot bear the irritating effects of even the most carefully prepared soaps, especially on the face, a little sal volatile (a tea-

spoonful to the quart), in distilled or soft water, is a splendid substitute for soap. For those who can afford it, Eau de Cologne or toilet vinegar, in the same proportion, may be employed. But these articles should never be applied to the skin without water, as they are mainly composed of strong spirits of wine, which exercise a very injurious effect, by drying up the cuticle and discolouring it in time. For a naturally greasy skin, the use of a little ammonia is recommended in preference to soap ; and it will be found most refreshing, stimulating, and cleansing, with the warm bath.

Soap has often a beneficial effect upon the black spots which are seen on the face of so many young people of both sexes.. The face should first be well steamed over water, as hot as can be borne, and then rubbed plentifully with soap and warm water, and afterwards dried with a rough towel. If this treatment does not produce the desired result, the black spots can be easily removed by pressure with the thumb-nails, after which the face should be anointed with vaseline, lanolin, or cold cream. Whichever is used, it should be allowed to remain on some little time, and then the face can be washed with soap and warm water. As a rule, the condition of the skin which produces these black spots (come-

done) is the result of the general health, and is only improved by attention being directed to that. It is generally temporary, and passes off as puberty passes into maturity.

The Turkish Bath.—The Turkish-bath, which has been introduced into England of late years from the East, is a modification of the luxurious baths so much in use by the Romans and Greeks of two and three thousand years ago. As there are many traces throughout England of the Roman bath, we may presume that it was first brought over to this country by the conquering and civilised Romans, not for the benefit of the savage native, but for the comfort and convenience of those who had to make England their colonial home. It is quite unnecessary to enter into a detailed description of the bath, which is doubtless well known, not only by repute, but by use, to the readers of this book. The great object of the bath (very similar to the hot bath) is to promote excessive action of the skin and to induce copious perspiration. It accomplishes this end by means of hot, dry air instead of water. The process is, or should be, a lengthy one. A Turkish-bath taken quickly is fraught with much danger. At least from three to four hours should be spent from first to last in the bath, and undue haste avoided in every

stage of it. It ought not to be taken soon after a heavy meal, but about one to two hours after a light repast. Only the strongest and most robust can at once enter the hottest chambers—the temperature of which may range as high as 240° Fahr.—beyond the Calidarium; and such a proceeding can be recommended only to the experienced bather. Even the Calidarium, which ranges from 130° to 150° Fahr., is found too hot by numbers of women at first. The bath should be taken with extreme caution, and never without medical advice. The symptoms which prove that more harm than good is being done are rapid pulsations of the heart, violent throbbings of the temples, sensations of suffocation and faintness. If fainting actually occurs, it will be good indication that the person's heart and circulation are not strong enough to bear the Turkish-bath, and that it will effect more harm than benefit. The skin should act freely, and begin to do so almost immediately after entering the Calidarium. Its action with most people is very much aided by plenteous draughts of cold water being drunk during their stay in the hot room. When the body is perspiring freely all over, it is time to undergo the shampooing and washing process. Many people remain too long in the hot room, and the perspiration is all

dried up by the heat. It should then be removed by washing and rubbing. This last, and the cold douch are the most invigorating parts of the whole performance. The relaxed pores of the skin return to their normal condition, whilst the muscles and nerves of the body are braced up ; the pulsations of the heart are fuller and stronger ; the skin is freed from many ounces of saline and fatty animal matter and pints of water, which in the ordinary way it might have taken several days and even weeks to get rid of.

At the same time, with the many advantages which the Turkish-bath possesses, it must not be indulged in too freely by even the strongest and the most robust. It is wonderfully beneficial in cases of joint and muscular rheumatism (unattended with heart disease), in neuralgia, sciatica, obesity, and some few cases of dyspepsia ; but no one should ever take the Turkish-bath who has any tendency to heart disease or weakness of any of the internal organs : it may prove most dangerous, and even fatal, in such cases. Again, it should not be taken by the strongest too frequently, for it is apt to produce a debilitating effect, and the skin is kept too actively in operation. With most women, once in three weeks or a month should be found suffi-

cient, and its beneficial effects would then be appreciated. The feeling of lightness, exhilaration, and vigour, experienced after a Turkish-bath, is one of its greatest charms and benefits ; but this will wear off with too frequent repetition. A well-ventilated bath, and one which is kept *scrupulously* clean, should also always be chosen. One has to run many risks and chances in public baths, and many delicate-minded and sensitive women are altogether prevented from making use of these institutions, even the most expensive, when they consider the chance company into which they may be thrown. A lady should always go provided with her own wraps and towels, which should of course be retained for her own use only, and be taken away with her when she leaves.

SLEEP.—REST.

Sleep is the temporary, but not complete, suspension of all the mental and physical faculties. If it were complete, it would be death, and not sleep. Every animal, and it is said every plant, requires sleep for its development, nutrition, and reparation. One cannot positively assert that plants actually sleep ; but every animal possessing a brain, however minute, comes under the potent and benign

influence of "tired Nature's sweet restorer." Thus the brain is the principal organ of the body in the production of sleep. The whole physical organism may be in a state of absolute rest; but, if the brain is active, the body is not reaping the greater benefits of the sleeping condition. The psychology of sleep is full of interesting speculative matter to the philosopher and man of science; but we have to deal with the subject only from a physiological point of view in this manual. Sleep, as much as light, is essential to the growth of animal life. Nature shows us this in the sleeping infant, who for the first few months of its existence passes at least two-thirds of it in sleep. We can almost see the lovely little creatures *growing* in beauty, health, and strength, during these long hours of peaceful and beneficent unconsciousness. One can conceive of no torture so exquisite, of no cruelty so inhuman, as to deprive wilfully a child of its requisite and natural amount of sleep; and yet it has been done! Of a verity, ignorance is the mother of all the diabolical cruelties human beings are capable of, as well as of all vice and sin.

During sleep the physique is undergoing repair. The muscular system, in which the greater part of the physiological wear and tear of the body takes

place, is gradually recuperating itself under the influence of absolute rest ; and we experience the beneficial effects of the process when we awake and recommence our daily life. Whilst our muscles are in active exertion, the products of combustion (from the combining of oxygen and carbon) are being rapidly formed and cast out of the system by means of the skin, the lungs, and the kidneys. Whilst they are resting during sleep, they store up nutriment (brought to them by the blood) in preparation for the next day's physical activity. When, from some cause or other, sleep cannot be obtained, the muscular system very rapidly becomes exhausted, and nerves and muscles act and react upon one another to what may prove an alarming extent. Therefore, as Shakespeare has truly said, sleep is the "chief nourisher at life's feast." We can scarcely imagine what existence would be without it. It almost strikes one with horror to think of life, such as ours, being passed without its daily recurring periods of complete unconsciousness. For there is not only the physical benefit we derive from sleep, but also the mental pleasure. It is not a conscious pleasure, I admit ; and it is anticipative and retrospective, never actual ; but that it produces emotions of a pleasurable nature there can be no

doubt, since we yield to its embraces so readily, so fearlessly, so cheerfully. We seek sleep, we woo it with every art, and there is scarcely anything which causes us so much anguish as our inability to find it. Thus it is a state of serene, unconscious happiness, if not of conscious joy.

Sleep not only maintains health, and is not only indispensable for its continuance and preservation, but it is one of Nature's finest restoratives in all diseases. Sleep is the only prescription that can minister to a mind diseased, that can banish corroding thought from the anxious mind, calm the irritable nerves of an overwrought nervous system, and restore tone to the hardly worked muscles. I believe in the power of sleep to prolong youth and life, and to keep the highly charged supersensitive latter-day brains from losing their balance altogether. When life was spent in a more vegetative manner than it is by nine-tenths of the inhabitants of civilised countries of to-day, sleep might have been indulged in to even a far greater extent than it is now ; but it was not so necessary. And it is the brain-workers who require the most sleep of all. The organ or structure of the human body which is voluntarily worked the most is the one which requires the most time for its recuperation.

The head-worker who tries to limit his sleep, in order to gain the more time for study, will inevitably have to pay for it : the nervous system will become unstrung, the temper capricious, even violent, the character changeable, moody, and dissatisfied ; in time the *quality* of the work produced by such a person will undergo deterioration, because the brain will be in alternate states of irritation and exhaustion. Those who respect their brain, and require it to produce good sound work over a number of working years, will not put it on short rations of sleep. If they do, Nature will have her revenge. .

Infants require at least sixteen hours' sleep out of the twenty-four. Children of both sexes, up to the age of four or five, about twelve hours ; of nine or ten years, about eleven hours ; and between ten and fifteen, about ten hours. After twenty-one, until twenty-nine or thirty, nine hours' sleep would be found sufficient, and eight hours' during middle age. Old people can do with much less sleep than young ones or children ; on the other hand, many old people have a remarkable faculty for sleep, and it is generally found that those who sleep the most suffer the least and live the longest. Sleep seems to be a wonderful promoter of longevity in a large number of aged people. It is true the life is some-

what of a hibernating one, and not of thrilling interest to themselves or anybody else; but it is a fact which must be mentioned among the causes of long life.

Sleep should be taken, of course, during the night. It would seem superfluous to mention this; but many people think that, if indulged in at any time, it is as beneficial as the night sleep. Nature reveals the truth in the case of all the lower animals and uncivilised man, who go to sleep at sundown and wake up at sunrise.* The most restful and the most recuperative sleep is that which is taken from between one to two hours before midnight to six or seven hours after it. For children and young growing people, the bedtime should occupy the hours between 8 p.m. and 8 a.m. Those who have, from the nature of their occupation, to go to bed at other hours than the hours named, should always try to secure the *full* amount of time for sleep.

To procure the greatest good from sleep, two things should be avoided before resorting to it: viz., mental study, which taxes the brain, and a heavy meal. Either the one or the other will effectually

* This natural law could not of course be followed out by civilised man during the winter.

banish sleep from the eyelids, or will only produce a distressing and pitiful caricature of it. The circulation of the brain should be steady and quiet, to produce a sufficiently profound and restorative sleep. This is seldom the case when head-work has been indulged in up to the last moment before going to bed. The presence of a large quantity of blood in the brain (which intellectual work of course induces) causes a condition of mental activity and excitement that either prevents sleep altogether or only realises a disturbed version of it. The hour or two before bedtime should be either spent in recreation of some kind, pleasant conversation, or reading light literature, which does not tax the intellect too severely. The last meal before sleep should be taken at least two or three hours previously. As some people digest their food much more quickly than others, a sensation of emptiness is often experienced, and is sufficient to prevent sleep. A light meal will often obviate this. A beaten-up egg and milk (warm), with bread and butter or biscuit; rice custard; a little porridge or gruel, or any other light and easily digestible article of diet, will suffice for the purpose. But heavy suppers should be avoided by all but purely muscular outdoor labourers.

Sleep does not refresh every one as it should do in the normal state. Many people awake in the morning feeling drowsy and tired, and almost incapable of entering on their day's work. Numbers of quickly growing girls experience it; but, if they are at boarding-school, they are obliged to resist the feeling and conform to the regulations. I should be inclined to deal leniently with such cases, and to allow girls and boys during puberty, especially if they express a great desire for it, a little more time for sleep. Necessarily much discretion will have to be used, and each individual case judged on its own merits, in order to prevent the formation of a slothful habit. Malingering is too often resorted to by boys and girls who have not yet developed the sense of moral responsibility and conscientiousness. But, when sleep does not refresh, there must be a cause for it; and it should be sought after and treated. Unfortunately, a very deplorable habit has of late years grown up in society, and is found quite as much amongst women as amongst men: it is that of drug-taking, to procure sleep. Nothing is more contrary to the laws of Nature and of health. As a matter of fact, it has injured the health of thousands of women; and, as the habit seems to be spreading to an alarming extent.

amongst them, it is time that the medical faculty should raise a solemn voice of warning against it. Nearly all narcotics are poisonous, and most certainly exercise a deteriorating effect upon the highly sensitive substance of the brain. I attribute (and I believe this is an opinion generally held by the profession) the greater indulgence by women in alcoholic liquors of all kinds to the more hurried and anxious lives they lead nowadays. The rush of existence has caught up the nineteenth-century woman in its relentless grasp, and, whether it be in the interests of pleasure or of work, she becomes its willing or unwilling victim. The nervous system gradually breaks down under the strain, and sleepless nights are the consequence. Narcotics are indulged in (generally alcohol at first), with apparently good results for a time ; and then, as is the physiological fate of all drugs, their effects wear off, either much more has to be taken, or the nervous system, like an over-wound watch, runs down suddenly and produces an alarming condition of unstable nervous equilibrium, which may either end in the lunatic asylum, or, at any rate, incapacitate the individual for work in the world during a lengthened period.

The causes of sleeplessness should diligently be

sought by the experienced physician, and the proper remedies applied. A defective circulation, accompanied by ice-cold feet and hands, will often cause insomnia. Many people, even when suffering in this way, object to hot-water bottles (or hot bricks wrapped in flannel), thinking they are injurious. This is a mistake. The great thing is to obtain sleep in a state of bodily comfort. Therefore to have the bed thoroughly warmed by means of a hot-water bottle (which ought not to come into contact with the body) is the best and most rational method of counteracting the painful effects of cold extremities. Some people find a twenty-minutes' to half-hour's walk in the open air just before bedtime a very good corrective for sleeplessness; but for others this would stimulate all the functions too much, and thus prevent or delay the desired end. Very hot weather will often produce sleeplessness, and the body tosses from one side to the other without gaining rest. A very excellent remedy for this is to sponge well the entire body in cold water, and then gently remove with a soft towel the greater part of the water, leaving the body a little damp. This often procures the most deep and refreshing sleep in very hot, close weather. Mental excitement of any kind nearly always banishes sleep, and is

very difficult to treat. Keeping the mind fixed on irrelevant matters, and trying to withdraw it from the exciting subject, will sometimes succeed with persons of strong determination; but, more often than not, fails with others. There is no doubt that reading an interesting but not exciting work of fiction, after retiring to bed, will often in such cases be productive of the greatest relief and benefit. It is scarcely to be recommended in the case of very young people, who are apt to abuse the advice. But self-treatment in serious and long-continued insomnia is always to be deprecated, as it may result in lasting injury to the nervous system. The restless, unsatisfactory life of a fashionable woman is a fruitful source of sleeplessness. As the years roll by, and she sees others stepping into the place which she by strenuous efforts has tried to retain, her enjoyment of life becomes marred, and her soul is filled with envy, bitterness, and disappointment. The Dead Sea fruit fills her mouth, and her brain begins to revolve restlessly round her shattered hopes and desires. No wonder she cannot sleep. It is only when the days have been passed in the performance of good works, in the fulfilment of duties sacred to the family and humanity, in the recognition of the fact that this life is but a pil-

grimage and a preparation towards a perfect one, that peace lovingly finds a place in the wearied body and soul, and deep and refreshing sleep is the result. We can only earn a night's repose, like Longfellow's blacksmith, after something attempted and something done.

Overmuch sleep, which is as harmful as too little sleep, is productive of intellectual lethargy, physical inertia, and moral sloth. But it may be due to disease. This fact must never be forgotten, as inability to resist sleep is symptomatic of some very grave and subtle disorders, often exercising all the learning and ingenuity of the medical profession. The heavy, lethargic, and continuous sleep of a young infant may often indicate brain pressure, probably a hydrocephalic condition of that organ. Mothers should be properly alarmed when their babies sleep inordinately, especially if it is accompanied by rather rapid growth of the cranium. When oversleep is not due to disease, it is of course due to the formation of a slothful habit. The brain which is constantly being soddened in the deadening effects of abnormal sleepiness cannot produce any intellectual work. But we must admit that, whereas insomnia nowadays seems to be very prevalent amongst all classes, oversleeping is certainly

a rare exception. Therefore I need not waste many words upon it.

If I am an advocate of sufficient sleep, I certainly advise every one to get as much rest, apart from sleep, as possible. The body naturally revolts against long-continued strain of any kind, whether physical or mental. Directly this uneasy sensation is produced (and sometimes, as in the case of mental workers, it is a painful sensation), it should be responded to at once. Rest is often obtained by a change of occupation, and not merely by complete inactivity. It is wonderful how quickly the brain will be refreshed and recuperated by turning from one subject of study to another. So it is with the body. After a good swim, a long walk is not found in the least fatiguing, but, on the contrary, very invigorating and *restful*. In the case of the brain, other mental centres which have been in repose are called into activity by the new subject of study; and, in the case of the body, a variety of muscles not used in swimming, or only slightly used, are brought into action by walking.

Standing, or movement within a very limited space, is always fatiguing, especially to women, although many men acknowledge the same thing. There is nothing which makes shopping such a painful

matter to me, and I expect to all thinking, sensitive women, as the fact that so many thousands of my sisters are kept standing for hours behind a counter without any means of rest. It is not only fatiguing, but, as all doctors know, it is productive of many serious disorders. The girls get worn out—not from overwork, but from the mere fact of *standing* so much—at the end of three or four years, even if they can remain in the business as long as that. The great majority of them come up to London, and other large towns, from the country, strong and healthy, fresh-coloured and blooming. At the end of a few months they have grown pale and anæmic, listless and hysterical. The ankles swell towards night, and in time varicose veins are formed, which very often develop into ulcers. There are other evils produced, to which I cannot allude in a popular manual on hygiene, but equally serious, equally health-destroying. From the humanitarian point of view, I protest strongly against the custom; and I hope that either the legislature will step in and do something towards ameliorating the unhappy condition of these thousands of wage-earning girls, or that society, indignant or determined, will bring pressure to bear upon all shopkeepers to provide their female assistants with seats.

Should we rest after meals, or more particularly after dinner? This is essential in some cases of almost incurable dyspepsia, but I do not consider it necessary for young and middle-aged people who have a normal digestion. I have noticed that a large number of people who habitually over-eat themselves require a rest after dinner. They rise from the table with sensations of fulness, heaviness, and drowsiness. It seems a sufficient indication to them that their digestion cannot be properly performed without a rest. As a matter of fact, it is a sure sign of the stomach having been overburdened with food. Such people generally get very stout towards the meridian, and their days are haunted and their dreams disturbed by the amount of "too, too solid flesh," which encumbereth them round about. My advice to all who have any tendency that way is to eat less the older they grow, and always to rise from the table with the feeling that they could have satisfied their appetite a little more. . The necessity for rest and sleep will not then make itself felt. It never does so in the case of young healthy people, and I believe the habit has given rise to a great deal of preventable indigestion. Very often a rest of about a quarter or half an hour is found beneficial *before* taking a meal after any long and exhausting

exercise. Children and young people should not partake of a heavy meal immediately after returning from a walk, or the performance of gymnastic exercises, lawn tennis, etc. The body should be allowed to cool down and the sense of fatigue to wear off before eating; digestion will then be more efficiently performed.

A hundred years ago, a hygienist need not have insisted so much upon the value of rest to the weary mind and body, because life was not such a gigantic, tyrannical treadmill as it is to nine-tenths of the civilised human race to-day. But we see its great importance now, and we must insist upon its being given a place with other health observances. Without rest, the mind becomes profoundly agitated and disturbed, and in a fit condition to take up with all the new and, in most instances, crack-brained, ridiculous theories which spring into existence at a touch of the charlatan's or madman's wand. Other centuries have seen the birth and growth of great religious systems and philosophical doctrines; but it has been left to the expiring nineteenth century to launch into existence one stupendous farrago of feebly transcendental rubbish after another, until we stand astonished before what appears to be the hopeless credulity of mankind. Overworked, mentally con-

vulsed men and women, instead of *resting*, rush madly into all these disquieting and astounding *'isms*, and crowd their mental and spiritual lives with a mass of indigestible and unwholesome theories, which go far towards completely unhinging their already unstrung minds. As for rest, they know it not. If they rested, they would think more; and the world would be saved from the demoralising influence of these transcendentalists.

It is not *thought* which injures the brain, but thought perverted and corrupt. Never have suicides been so frequent, and they increase with every day; and women seem as little to dread taking their lives as men. Formerly, this was not the case; and we can attribute a large part of the unstable mental equilibrium, which results in suicide, only to the sort of mental and spiritual food which is constantly being served to men and women under various high-sounding names. Surely we may ask, with some amount of wonder, If this be the consequence of education, and of the higher education, of the acquiring of scientific and philosophical knowledge, competitive and pass examinations, what may we look forward to in the future? Is the world to be still more flooded with visions and vain imaginings? If so, good-bye to common-sense, true religion, and

health of mind and body ! For all those who would retain a healthy mind in a healthy body, I would recommend them to rest both at frequent intervals, and not to allow the former to become the lodging-place of all sorts of fantastic metaphysical notions, which change their front and assume a different name with every succeeding decade. Great is the truth, and it will prevail !

In conclusion, I would say—when you can sit, do not stand ; and, when you can assume a horizontal position, do not sit. I have no desire to encourage lazy habits ; but, when you have a little time to spare from money-getting and recreation, think of the importance of resting. Do not let life hurry you too rapidly along its mixed stream, but insist upon getting a little of the pure pleasure of repose. I especially recommend this to the thin, nervous, anxious people, who not only think rest a sin for themselves, but prevent others from taking it. There are so many nervously active people in the world, whose activity and restlessness lead to nothing. Your seemingly slow and take-it-easy person often accomplishes more in six months than your rest-phobia person in six years, and also gets more out of life as well. The formation of restless habits should also be avoided, as these consume energy as

much as unceasing but unproductive activity. In these days we want as much as possible to store up energy for future consumption, and therefore everything which conduces to that end should be sedulously studied and practised. All this does not mean that any one need cultivate the phlegmatic or lymphatic disposition, but that restless activity should be restrained, and kept within such bounds as not to undermine the mental or physical health.

RECREATION.—EXERCISE.

If it is essential for health and happiness that the system, intellectually and physically, should have a proper modicum of sleep and rest, so it is necessary to provide and secure a certain amount of recreation for the same end. The day of twenty-four hours has been well divided into three parts : viz. eight hours' work, eight hours' sleep, and eight hours for eating, resting, exercise, and recreation. We are far from having reached this happy division of the day, excepting in the case of a very few favoured individuals. But there is no doubt that it will be greatly to the advantage of the human race when we shall have arrived at some such goal. "All work and no play makes Jack a dull boy," and there are far too many of such dull boys and girls

amongst us. The world becomes more heavy and serious every day ; there seems to be no time for light-hearted, large-hearted, loving laughter. Alongside the serious treadmill of existence, there exists, it is true, a frenzied desire for pleasure of all kinds. But the kind of pleasure which society madly rushes after is not the recreation that is to bring refreshment and serenity to the overworked body and fevered soul. On the contrary, it intensifies the evil in both.

Nine-tenths of the so-called pleasures of to-day breed selfishness, vanity, sensuality, coarseness, and vulgarity, not to speak of numberless sins and vices of all kinds. Women are too often, alas ! possessed by a similar fever. They are hurried along in the same unwholesome, rapidly rushing stream, seeing not whither it may and often does carry them, into a veritable *cloaca maxima*. Perhaps the women who are leading such unhealthy, deeply unsatisfactory lives may never come across this volume ; but, if they should, I would earnestly beg them to reflect for one moment on the imperishable harm they are doing themselves and the human race. No man lives for himself alone ; and not a single error does one of us commit, but what it affects numberless others, perhaps unknown to us. Like the pebble cast into

the midst of a pool, which forms one circle after another, until they are far removed from the central disturbance, so do our deeds go forth from ourselves to influence those at unknown distances. Even if we fall and fall again (which we shall, for it is human to err), our strivings should always be to rise ; and at each successive effort we shall find it easier next time to rise a little higher. These thoughts are actuated by consideration of the numerous follies which go by the name of pleasure nowadays, and which bring bodily ill-health and spiritual death in their train.

* Pleasure or recreation should leave no after-sting to disturb the serenity of the conscience, which Cato has beautifully described as “the eye of God in the soul of man.” There should remain only a feeling of physical and mental restoration, of pure, unalloyed, unbounded delight, as when the eye rests on one of Nature’s beautiful scenes. One can experience true recreation in Nature, music, literature, art, the drama, conversation, and social intercourse. By such means we can bring joy into our lives, health into our bodies, happiness into our souls. We feel afterwards that we have recreated ourselves for the time being, that we have lightened the day’s burden, that we have lifted the sombre clouds of

grief, suffering, and anxiety, to which we are all victims at one time or another. Man was not born to be a perpetually sorrowing animal : he came into the world possessed of feelings which entitle him to a fair share of the joys and happiness to be found in the world. It is only demanded of him that he will not convert his pleasures into vices, his joys into sins, his higher nature into a mutilated and shameful likeness of itself.

We also ask those who voluntarily overwork their brains, and look upon all forms of recreation as weaknesses of the flesh to be avoided, not to be too sanguine or confident that they are pursuing the right path. Such people are in the habit of looking askance at all those who find a perfect joy in laughter, exquisite delight in innocent foolery. They often possess knowledge, but are utterly devoid of wisdom ; and, as a grain of the latter is worth a ton of the former, they often lose the substance of life in pursuing its shadows: To such people, who cannot understand the potent powers of enjoyment possessed by their neighbours, but would pass a condemnatory sentence upon them, I would quote the words of that most delightful amongst modern essayists, Charles Lamb :—" And take my word for this, reader—and say a fool told

it you, if you please—that he who hath not a dram of folly in his mixture hath pounds of much worse matter in his composition.”

Laughter is recreation, and a powerful means of clearing away mental cobwebs and physical weariness. Personally, I rather regret the loss of that favourite institution, which had its day during the Middle Ages, the court fool. Wit has died out with the fool, and humour bids fair to follow in its wake. Dyspepsia would not be such a common complaint if there were more laughter at our tables; but we are getting to eat quickly and in silence, or, when we talk, to enter into endless wrangles on the labour question, the woman question, the temperance question, the marriage question, and all the other questions which this wonderful nineteenth century of ours has heaped together to trouble the heads of a long-suffering generation. We pine for a little more simplicity, a little more nonsense. We want every now and then to be allowed to throw off this grey garb of solemnity, and to don the cap and bells and play the fool. Dark as life is in several of its aspects, it has many a dash of sunshine, of which we might take advantage for our body's welfare; but we leave it on one side, because we think that gloom is synonymous with

wisdom, renunciation with the higher life. I would say of any one, who does not know how to enjoy a hearty laugh, what Shakespeare said of the man without music in his soul,—that he is “fit for treason, stratagems, and spoils ; the motions of his spirit are dark as night, and his affections black as Erebus. Let no such man be trusted.” Therefore cultivate laughter as a means of keeping in health the body and the mind. No animal can laugh except man ; and, as Dr. Chambers once said, no animal can play the fool except man : let us then leave supernatural gravity and the inability to play the fool to such sapient creatures as the monkey and the owl.

I have already said so much about the necessity of exercise for the maintenance of health that I need not waste many more words upon the subject. I venture to assert that if every man and woman in tolerably good health (I mean men and women who are not suffering from any organic disease, and yet whose health gives them some amount of anxiety now and then) would undertake to walk four or five miles every day of their lives, they would have very little to complain of on the score of ill-health. Walking is the most natural of all exercises, and brings into action the largest number of muscles ;

but it cannot be properly performed, nor its full benefits reaped, when the arms are pinned to the sides under cloaks, and the hands stuffed into muffs. Girls should not be told to keep their arms still when walking because it is unladylike to swing them. This is an old-fashioned, stupid dogma, which, I sincerely hope, is relegated with many other meaningless prejudices to the limbo of past errors. Men, who are more natural and not given to so much namby-pambyism in these matters, always swing their arms in walking. And wherefore? Because the equilibrium of the body is better sustained by so doing, and also because it is less tiring. Moreover, the muscles of the chest are brought into action by the motion of the arms, and thus the lungs have more room to play in, through the temporary expansion of the chest walls. A larger amount of blood can flow through the expanded lungs, and becomes more rapidly and effectually aerated or oxygenated. Thus the whole body quickly feels the benefit of walking exercise. When the arms are immovably fixed to the sides, the body is not so thoroughly warmed as when they are allowed to swing gently and naturally to and fro. If my readers have ever watched a champion walker, they will have noticed that his arms swing in harmony

with his legs, and that he is never seen with them crossed over the chest. If he tried to walk in that fashion, he would very soon grow tired and exhausted. Thus jackets are much more healthy to walk in than the form of cloak which hampers the movements of the arms and hands.

I recommend walking before every other kind of exercise for bodily health, because it is within the reach of every one. A horse has to be first bought, and then maintained. A bicycle or tricycle means a preliminary outlay, and occasional repairs, beyond the reach of the great majority. A boat has to be hired and paid for; and, in fact, every exercise except walking means more or less expenditure of money. For those who can afford any of these other means of exercise, I do not underrate them, and riding is an especially beautiful and healthful exercise; but in none of them are so many muscles of the body brought into such continuously harmonious action as in walking. Cycling may be, and I know has been, found extremely beneficial in numbers of cases; but, personally, my æsthetic sense always revolts against seeing a man, more especially a woman (formed by Nature to be graceful), on wheels. Nothing can ever make the combination a beautiful or becoming one. One does not feel this in regard to a man or woman on

horseback, or in a boat, or ~~on a~~ lawn playing tennis : one feels it only in connection with a man or woman on wheels. Perhaps an artist could give the reason why. Physiologically, I recognise some objections to cycling by women, and especially by pregnant women ; but probably those who have tried the exercise, and found it unsuitable for them, have not been foolish enough to persevere. Certainly there is scarcely any form of exercise to which some objection or another could not be raised, or which, when carried to excess, would not always be fraught with danger to health.

I must say one word with regard to what is known as carriage exercise. Now, this is no exercise at all, in the true sense of the word ; and it is absurd to call it such. The being able to move rapidly through the air without stirring the body is only one means of obtaining a new and fresh supply of oxygen, but it does not invigorate or strengthen the muscular system in the slightest. The oxygen carried to the muscles by the blood does not nourish and stimulate them, as it would otherwise do if they were actively and regularly contracting. The women who indulge in little else than carriage "exercise," over a series of years, are in a large majority of cases laying the seeds of gout, rheu-

matism, muscular paralysis or atrophy, fatty degeneration, dyspepsia, and hypochondria. I would warn all women, anxious to maintain their health, against overmuch driving in carriages, when they do not exercise their muscles in other ways. It is a hygienic mistake, and will be found so in the long run. I daresay my words of warning will fall on numberless unheeding ears; but they may attract and hold the attention of some who are really desirous of saving themselves from years of ill-health and suffering. Whoso is forewarned is often forarmed.

I am strongly of opinion that there would be very little dyspepsia and still less hypochondria, nervous morbidity, muscular debility, chronic constipation, headaches, and other disorders far too numerous to mention, from which many otherwise healthy women suffer, if my plan of a five miles' walk every day, with pleasant companionship, were carried out. I hear the universal chorus of excuses which is raised, and I acknowledge the validity of a great many of them; but the truth of the above statement cannot be disputed. It is as unalterable as the laws of the Medes and Persians. Of course, if it is a question of retaining the possession of a pair of inadequately small (but not necessarily

beautiful) feet, cramped in thin-soled, high-heeled, narrow-toed shoes or boots, the advice given above will not produce the slightest effect; but if it is a question of health, common-sense, and happiness, walking exercise will be taken every day regularly, even if it cannot, as it should, be extended to five miles.

OBESITY.—THINNESS.

Some people are too fat and want to be made thin, and others are too thin and would like to be a little plumper; but no one in the world likes to be very stout. Of the two extremes, one would prefer the want of fat to its redundancy. There is a very natural explanation for this. Fat interferes with muscular activity; it is burdensome to carry about; it conveys an impression to others (very often most erroneously so) of self-indulgence at the table; there is something grotesque about it; it not infrequently means the presence of disease; there is nothing æsthetic or beautiful about it; and last, but not least, it is not conducive to longevity. There are many causes for the existence of a superabundance of this animal matter on the human frame: (1) It may be constitutional or hereditary. Some families have been fat, or have had a tendency towards corpulence, for generations; other families

are of the lean and hungry kind. (2) I must confess that in the large majority of cases, however painful it is for me to write it and others to read it, it is due to over-eating or improper feeding. No one likes to be considered a glutton : it is perhaps the most offensive epithet one can apply to a human being ; but there are vast numbers of gluttons, male and female, in the world, and the greatest proportion of them become stout. The thin gluttons are safe from society's critical gaze, but they are none the less odious. In justice to some few individuals, I must say that there are unconscious gluttons in the world—those who invariably eat more than is good for them, but are unaware of the fact. (3) It may be due to disease. (4) To want of proper and sufficient exercise, sedentary habits, etc. (5) It is very often found as a result of physiological changes in the system, in both sexes, towards the middle of life, or what is known as the climacteric.

When obesity is constitutional or hereditary, it is naturally far more difficult to treat successfully than when it is due to other causes. Great attention should be paid to the diet all through life, and physical activity cultivated. Fat is the physiological resultant of food that is highly combustible. We

call such foods carbonaceous or fat-forming foods. They consist of carbon, hydrogen, and oxygen, and are divided into two classes: viz. carbo-hydrates, represented by sugar and starch; and hydro-carbons, by fats and oils. The adult body requires daily from three to four thousand grains of carbonaceous food, taken in the above forms; and, if it is deprived of such food in adequate quantity, it will and must suffer. These foods engender force and maintain the temperature of the body. As fat deposited about the body in the various tissues, and as sugar in the liver, they can be called into requisition whenever the system needs them. In the process of starvation, every scrap of fat throughout the body is found to be consumed by the time death takes place. If a human being, or any animal, were fed entirely upon carbonaceous food, without any nitrogen, he or she would become enormously fat and very unhealthy; every tissue, organ, and structure of the body would be gradually infiltrated with the substance, organic movements would be impeded, the muscles would gradually lose their form and size, and life would be imperilled. Thus nitrogen, in its animal and vegetable forms, is absolutely necessary for human existence and health. We have it in such foods as milk, eggs,

meat, wheaten bread, cheese, rice, peas, beans, lentils, etc. Of nitrogen we require from two to three hundred grains daily.

Now, it can be easily seen that, if we consume more carbonaceous diet than our body requires, we shall begin to put on a superfluous amount of fat in time ; and, in proportion as we do so, our muscular strength and health will suffer. To a certain extent, a slight covering of fat is a protection to the muscles and organs lying underneath ; is conducive to suavity of outline, therefore to beauty ; and is a bad conductor of heat. But, when it goes beyond serving these purposes, it is useless and cumbersome, and may become harmful. To all those who have already attained an unenviable degree of corpulence, I 'would give the following advice. Curtail all food in the direction of sweet things, dishes composed of starch, fatty and oily articles of food. Live simply and by rule for several months. Take plenty of outdoor exercise,—walking by preference. Avoid, as if they were so much poison, such articles as rich soups or gravies, pastry, puddings, cakes, sweets of all kinds, cream, stewed fruits, potatoes, greens, watery fruits and vegetables,—such as melons, marrows, turnips, etc. ; and sweet fruits, such as bananas ; chocolate, cocoa, preserves,

white wheaten bread (especially of German or French make) ; and, in fact, nearly all those things which irresistibly tempt the palate of the self-indulgent individual. I must not omit to mention fermented liquors, especially the various kinds of beer (*vide* the fat, beer-drinking Teuton) and wine. Of the latter, port, sherry, Burgundy, champagne, Marsala, are particularly to be avoided.

Do not let your diet exceed 3500 grains of carbonaceous material, and about 200 grains of nitrogen (daily), during the treatment. Be on your guard against drinking too much of any kind of fluid ; restrain the desire for enticing beverages as far as possible. Wholemeal bread, dry toast, oatmeal porridge, meat, fish, poultry (served without rich gravies), eggs (boiled, poached, or beaten up, but not fried), cheese, apples, grapes, calves' foot jelly, beef-tea, unsweetened biscuits, lemon squash, soda water and milk, coffee, tea, may be amongst the articles eaten and drunk. Of course, the regimen is limited ; but it is the penalty to be paid for past indulgences. Nature is never outraged without having her revenge ; and, if some such kind of treatment is not rigidly adopted, the fat person will soon reap the harvest she has sown in a nice crop of gout. In fact, all that I have said here with regard

to the treatment of corpulence might be applied to gout. Gout is the offspring of rich, sweet, fat living, and fermented liquors. Dr. Garrod, the eminent therapeutical authority, maintains that "the use of fermented liquors is the most powerful of all the predisposing causes of gout—nay, so powerful that it may be questioned whether gout would have ever been known to mankind, had such beverages never been indulged in."

Children require and can dispose of much more carbonaceous material than adults; therefore, unless they are inactive or diseased, they can be allowed, after the rate, much more sugar, starch, fat, and oil in their food than grown-up people. But of course they are not to be restricted to a purely carbonaceous diet, any more than adults. Their muscles have to form and grow, and therefore they must consume nitrogenous food, which also goes by the name of flesh-forming food.

A Turkish-bath, combined with the treatment already given, will also reduce obesity. Taken alone, without dieting, it will effect the exact contrary. Why? Because it is a fine appetiser, and a person can sit down and consume a good meal after it.

The development of a large quantity of adipose tissue is often due to deranged stomach, indigestion,

feeble powers of assimilating the proper substances required for the nourishment of the body, or mal-assimilation, and chronic constipation. Many people bolt their food because they have not the teeth to masticate and reduce it. Result: some form or other of indigestion and probable obesity. Others again eat sweets between meal times, or are munching at something or other every hour of the day. Others neglect a very important natural function. Either, or all of these, may produce obesity. The great thing is to find out in each individual case what may be the probable cause, and to attack that. But I have given sufficient indications as to the direction which treatment should take to be successful: physical and mental activity; diet on the ascetic model (it is wonderful how little human beings can live and be healthy upon); attention to the due and regular performance of natural functions; abstention from fermented liquors and much liquid of any kind; no drugs. I mention this, because drugs which are advertised to reduce corpulence are pernicious to the last extent, and often result in serious and permanent injury to the health. The mind often has a wonderful influence over the body. Grief will make some people lose several pounds in weight in a few weeks. Disappointment in love

has also been known considerably to reduce weight. Grief, disappointment, worries and anxieties of various kinds, act indirectly. The sympathetic nervous system, which controls the organs of digestion amongst others, is in communication with the brain. If the brain is mentally disturbed in any way, the disturbance is conveyed to the organic nervous system ; and thus the stomach is indirectly affected, and, whilst the grief or worry lasts, does not properly perform its functions.

Thin people who want to be a little fatter, who fret over their angularities and general want of shapeliness, should do the exact contrary of their corpulent neighbours. As a rule, thin people take life hardly. They toil and spin, and wear themselves out. They sleep lightly, and rest slightly. They are ever seen on the move, and are shocked at those who confess a weakness for the *dolce far niente* of life. It would be better if they indulged in a little of it for themselves. But no : they loathe indolence, and condemn it in no unmeasured terms. So do we all, dear thin people : we look upon idleness as a sin, a vice, as anything you will, that is bad and degrading for the human race, but——let us first define what idleness is. I have often watched the thin, nervous, anxious people fly around,

as our American cousins say, all day and every day ; but infinitesimal has been the produce of their energies. They might just as well have taken life a little more easily, and tried to increase the amount of adipose tissue upon their bones. Of course some thin people are born so, and will remain thin even after any amount of time spent upon the fattening process, and which may probably end in ruining their digestions. I am sorry for them, if they are sorry for themselves ; but I am afraid that nothing can be done in such cases. Disease, of course, thins a great number of people. When there is persistent loss of weight and sensible diminution of fat, advice should always be sought. It may be due to diabetes, incipient consumption, mal-assimilation of food (as in obesity, only leading to a contrary result), and various other forms of indigestion. It is astonishing how very thin people can become, who do not properly and sufficiently masticate their food. What they take seems never to nourish the system. Of course this leads, as I have pointed out earlier in this work, to chronic indigestion. Thin people should take plenty of time over their meals, eat very slowly, and partake of an abundance (without producing a sensation of over-fulness) of carbonaceous food. I once saw the happiest results in

a young girl (who was getting very thin for some occult reason) after a few months' treatment on refined cod-liver oil, two or three tablespoonfuls of cream every day, and maltine. She improved rapidly in weight and strength, and looked the picture of health in a short time. Many persons have a natural distaste to fatty foods, but can often tolerate cream and maltine. When children have a ravenous appetite, and yet remain thin, the presence of tape-worm, thread-worm, or round-worm, in the bowel, should be suspected and looked for. It can be easily cured by appropriate treatment. The cause of thinness in quite young infants is more often than not due to mal-nutrition, the result of improper and insufficient diet. This condition should of course be rectified, or otherwise it may cost the life of the child.

With regard to increase in the body's weight, due to the more or less rapid formation and deposition of fat, during middle age, I should like to say a word. A goodly number of women become stout, and some of them very stout. They are generally mothers of large families, and represent the type of woman known far and wide as the British matron. Admirable and estimable in every way, but rather formidable. The type is represented in the male

sex by the paterfamilias or John Bull of comic art and fiction. The lithe, lean-flanked, muscular young athlete, who was once crack oar or champion cricketer, and who scaled mountains as if they were molehills, becomes thick, stolid, obese, in his middle age. The slender, graceful, lawn-tennis-playing girl, who could walk her ten or twenty miles a-day amongst the Swiss mountains, and perform other athletic wonders in her twenties, broadens out, solidifies, and fattens in her fifties. Now we ask ourselves whether such decided changes are a physiological necessity? I do not think we can positively say that it is so. And I am rather of opinion that, in both men and women, it is due to a greater consumption of food than the body can properly dispose of. Let us for a moment investigate the subject scientifically, and see whether any physiological explanation can be given for this degenerative change, for degenerative it undoubtedly is. In youth, cellular activity of the body is great; the waste material formed is cast off almost as soon as it is generated: therefore liberties may be taken with the appetite and digestion which are found impossible later on. Moreover, the greater activity in which young people live and have their being gives birth to a good appetite, that can be

satisfied without thought of the morrow. Ill effects not being the immediate result of this indulgence, the habit of eating without setting any judicious limits to the appetite is formed, and is not easily conquered afterwards.

As the years roll by, and the illusions of youth gradually become dispelled, and the hard realities of life grow prominent, the appetites, which have not been restrained, come uppermost. Eating and drinking take the place of the lost illusions—*e.g.* love, hope, enthusiasm, “Shakespeare and the musical glasses.” Man makes a god of his stomach, if he does not throw himself into purely intellectual pursuits. The grosser appetites then reign supreme. But what is the result? The cells of the various tissues and structures of the body refuse, or are physiologically unable, to throw off all the material that is not absolutely required for the nourishment of the system with the vigour and perfection they exhibited in youth; and so there is gradually accumulated a load of fat. I venture to say that a large majority of the cases of obesity in middle life, both in men and women, are due to over-indulgence at the table, laziness, and animal rather than intellectual pleasures. Of course it may be due to disease, and the result of quite other causes than those I have

mentioned ; but I am bound to affirm, from my daily observations of the life that surrounds me, I am not far wrong in a very great number of instances. When people lead intellectual and emotional lives after youth, they rarely accumulate a large amount of fat. It is only when they allow the animal in them to predominate that they do so.

The fact that a certain, gradual, ever-deepening degree of physiological sluggishness takes possession of the system as human beings approach the fourth decade should never be forgotten by those who prefer to be physicians, rather than fools, at that age.* This being the case, and for those who value health, as I suppose every sensible person does, I strongly recommend *curtailment* of the appetite as the years roll by. Only enough should be taken daily for the exact nourishment of the body. No superfluities, no self-indulgences. Plain living and high thinking should be the motto of those who would dominate the flesh and leave the intellect and heart free. The women who want to keep up some of the illusions of life after their first youth is past, who have a horror of growing unwieldy and gross and fat, will refuse to make a god of their

* Referring to the adage, "A man at forty is either a fool or a physician."

stomachs, and will only eat to live, and not live to eat. But self-restraint must be daily practised ; and the habit had better be acquired in youth, then afterwards it will not be found so difficult to adhere to.

The remarks that I have made apply equally as preventives of that widespread, hydra-headed disorder yclept indigestion. Must I repeat what I have written already several times during the course of this little work, for the purpose of impressing it upon the minds of my readers ? I say again that, if life were lived as it should be, if food were taken more for purposes of nourishment than for the mere gratification of a pleasurable sensation, there would not be so much indigestion. But, as Shakespeare says, "the appetite grows by what it feeds upon"; and, when it is so shamefully pampered as it is at the tables of the rich, we cannot be surprised at the result. The poor suffer from inadequate, ill-cooked, improper kinds of food ; the rich from foods which have been so skilfully manipulated by cunning-handed *chefs*, to titillate the jaded appetite, that they have lost all their nutritive qualities. And, then, consider the meals ! Two or three dinners during the day, besides snacks of various kinds between ! Is it to be expected that a human

stomach, above all a dainty female's, can put up with such treatment? I maintain that not half the amount of alcohol that is now drunk, and considered necessary, by men and women in society and out of it, would ever be consumed if it were not for the kind of living indulged in. The stomach cannot possibly digest its ill-assorted, innutritious, overfull contents; and alcohol, forsooth, is taken in some shape or form as a corrective and a digestive! And that is why such an enormous number of people come to the conclusion that intoxicating beverages must be good and necessary. A healthy digestion requires nothing but its own stomachic and other juices to perform its work efficiently; and every other kind of fluid, excepting water (and simple soups), in proportion as it is taken with the meals, interferes with and directly retards the process of digestion. In conclusion, I would add that unless indigestion is due to cancer or ulcer of the stomach, or hereditary feebleness of that organ, or intemperance, which is a potent cause of stomachic derangement, it is generally curable by attention to a few simple rules carried out with perseverance and regularity. But digestion can never be perfect without plenty of fresh air and muscular exercise, as well as regular simple living.

MATERNITY.

The most sacred of functions which Nature has allotted to human beings is that of motherhood to women. Man begets children, but woman bears them. In these latter days it would seem as if motherhood ran the risk of falling somewhat into discredit, probably on account of the terrible struggle for existence which women have to encounter as well as men. When we look below the surface, we shall not be so ready to condemn this apparent lack of maternal feeling. It undoubtedly arises from more unselfish motives than have been supposed. The more enlightened and educated human beings become, the more they will shrink from undertaking, without due and adequate preparation, the highest and greatest of all responsibilities,—that of bringing another human being into the world. The best women will give a great deal of thought to this subject, which cannot and never will be a merely individual question, but is one that involves the future happiness and well-being of the human race. As one of America's most eminent women of modern times, Miss Willard, says, "The only royal profession in life is motherhood, and yet in no other are there so many inexpert members." Never were

truer words spoken or written. The inexperienced members of the royal profession of maternity have been the means of losing to the world millions of what might have been valuable lives. They marry recklessly, without ever giving a thought as to whether they are physically, mentally, and morally equipped for the sublime function of maternity. Many of them live to regret the irretrievable step they have taken, when they see their offspring dying around them in infancy, or growing up deformed, enfeebled, diseased. But forethought is wanted; not tardy regrets. Surely such an important matter ought to be a subject of education amongst girls and women, if anything is; but even mothers never talk to their children as they ought to do, and the evil results, immediate and remote, of a terrible and profound ignorance are perpetuated from generation to generation.

The first question which confronts all social and medical philanthropists on this important subject is, whether any but really strong and healthy men and women should marry and reproduce themselves. It is one which cannot be answered offhand by a yes or a no. Weakly people are not always diseased, and often bring into the world healthy, robust children, who do the race credit. On the other hand,

I have often seen apparently strong and healthy parents give birth to, and with difficulty rear, feeble and deformed children, who lead a sickly life from the cradle to their premature grave. Drunkards do not always bring forth children like unto themselves, and sober people will sometimes find they become the parents of drunkards. We stand perplexed before Nature's multifarious eccentricities, and we cannot talk with absolute certainty about the laws of heredity. There are no such laws. The eldest child of a family, born when the parents are young, healthy, and robust, is often found to be the most feeble, and will remain so through life. The strongest and healthiest children are generally the intermediate members of a good-sized family, born when the parents are probably undergoing their greatest struggle for existence. The last born child of a large family, as would naturally be supposed, is not infrequently a feeble, degenerate specimen, sometimes idiotic or imbecile. The powers of reproduction have become enfeebled, the cellular activity of the body greatly diminished; and those born under this physiological condition of things must necessarily suffer from want of vitality, physical and mental.

But on the other hand I have often known

the last child of a large family to be the fittest specimen, intellectually and bodily, of the whole lot. Can we then, in face of these facts, lay down any hard-and-fast rule with regard to heredity? We might all of us say with emphasis that no men or women ought to marry who know themselves to be possessed of an incurable disease, and one which, like consumption and cancer, is undoubtedly hereditary. It is a sin, a crime, to marry and to bring children into the world under such circumstances. And yet we stand face to face with this fact,—that consumptive or cancerous parents do not always hand down their diseases to their children. The first generation often escapes, while the second generation suffers. But is there a moral obligation placed upon human beings to look so far forward as the second and third generation and side issues (nephews and nieces)? In some cases there might not be any second or third generation. Should the risk be run? The subject, as may be seen by the foregoing remarks, is one full of the gravest problems, for the solution of which I look to much more learned and philosophical heads than my own. I believe there is a solution to many of these difficult questions; but I do not intend to bring forward any myself, because I feel that I am groping only in

the darkness, at present. Besides which, the whole subject of parentage—maternity in particular, pre-natal influences, and heredity—is one which ought to be dealt with in a manual by itself, and not in a few pages of a book on general hygiene.

It is said on scientific authority that the healthiest and most finely-developed children are born when women are between their twenty-fifth and fortieth years. The physical and intellectual powers are generally fully developed then, and the fairest chance given to the offspring of drawing upon them. It is physiologically preferable, in the majority of instances, that the first child should be born before the age of thirty, as parturition is far more difficult after that age, on account of the fixity of the pelvic bones. Before the age of twenty-five, there is danger from lack of proper and sufficient development of the parts ; but far more lives are lost from first parturitions after the age of forty than before the age of twenty-five.

/ Pre-natal maternal influences are of four kinds, and are all of the utmost importance : viz. physiological, moral, mental, and psychical. Very few women, even those highly educated and deeply read, have the remotest notion that upon their general condition during pregnancy the future well-being

of their unborn child depends. Can a woman not understand, when it is pointed out to her, that a being so intimately connected with herself, flesh of her flesh, bone of her bone, will not indirectly, and sometimes directly, feel and be influenced by everything which affects herself? If she neglects her health during those vitally important months, the unborn babe will suffer. If she gives way to morbid depression, hysterical excitement, ungovernable passions, or any other form of moral or mental disorder, the unborn babe will feel the effects of it ; and it may become a part of the child's psychical constitution. In after years, as the child is growing up, the mother will often wonder, with grief and alarm, how it became possessed of certain characteristics which threaten to destroy its happiness, and to bring upon it sin, suffering, and shame. In not a few instances they may be traceable to the pre-natal condition of the mother herself. Does a mother who bears this growing organism in her system think that she can give expression to violent feelings of different kinds—such as hatred, temper, envy, jealousy, bitterness, grief, etc.—without its affecting that which she bears within herself? No more than if she systematically refuses to live a healthy life. If a pregnant woman lies on a sofa all the

day long, indulges in improper articles of food, or dresses irrationally, the foetus will suffer physically; so in the same way its moral and mental development will be affected and influenced by her psychical condition during those months of pregnancy.

The maintenance of personal health should be a woman's first consideration; and all her efforts should be directed towards keeping a cheerful, calm, contented state of mind. Everything should be made subordinate, for the time being, to the claims of the unborn. I do not think this is too much to ask of a woman who is about to present the world with another human being, which may turn out good, bad, or indifferent, according to the impress which she herself has stamped upon it during its foetal development. I do not wish to make a mother *wholly* responsible for all the physical, moral, and mental characteristics her children present. That would be weighing too heavy a burden upon many good women who have unfortunately given birth to children who have turned out vicious and criminal. Nor must we overlook the paternal impress given to the foetus, and the ever-varying effects produced by the intermixture of two different family characteristics and the idiosyncrasies of countless past generations. All this goes to make up the sum

total of one human being, and confers upon that human being its distinctive peculiarities. But what I would maintain is that, despite all these modifying influences, a woman has still an overwhelming responsibility in her own hands, and that she ought to recognise it to the full, which I am afraid is far from being the case in a great number of instances.

Why do so few women nurse their own children nowadays? A mother's milk is an infant's natural food; and I cannot believe that a child thrives so well upon artificial food, however carefully and scientifically it is prepared, as upon that which Nature intended it to have for the first nine months of its existence. Some women are averse to suckling their infants, and will advance any reason to justify their unmaternal conduct. Other women have not *prepared* themselves to do so. Still others, and a large and ever-increasing number, I am afraid, are physically unable to do so. They are town born and bred, and debilitated. With the first class I have very little to do. There will probably be indifferent mothers to the end of time, who look upon their maternal duties as a disagreeable interruption to a life devoted to the pursuit of selfish pleasure and personal vanity. The second class of women err mostly through ignorance

and apathy. They do not know the importance of building up their health and strength during pregnancy. They let themselves go, and do not make sufficient effort to deal with the feelings of lassitude and exhaustion which beset them. Such women should live by rule. But not only such women, for it would be better that every pregnant woman adhered to certain laws of health which would physically benefit both herself and her child. A very regular, quiet, and unexciting life should be led; and yet not a monotonously depressing one. There should be cheerful surroundings and society, and the emotions might be gently stimulated by music, art, and literature. I am a great believer in the potent and beneficial influence of love; and a pregnant woman should meet with this in husband, relatives, and friends. If a woman is neglected, even only partially neglected; if she is not surrounded by loving care and consideration, she will brood and pine more at this time than during any other period of her life. This will affect her morally and mentally, if not physically; and the impress of it may be, too often is, stamped upon the child *in utero*. It may account for the existence of a great many unhappy people in the world.

Daily outdoor exercise, preferably walking exer-

cise, should be taken during the whole term. This will strengthen all the muscles of the body, and so give a better chance of an easy and uncomplicated parturition. Such exercises as cycling and riding, or any games like lawn tennis, should not be indulged in on any account, at any part of the term. Railway travelling should be avoided as much as possible.

Early hours should be kept ; and hot, crowded, ill-ventilated rooms, halls, and theatres avoided. If possible, the greater part of the time should be spent in the country, so as to provide the blood with as much fresh air as possible, for the nourishment of the foetus.

Meals should be taken with clockwork regularity, and might consist of the following dietary. Breakfast at 8.30 or 9 o'clock. . Plate of well-cooked porridge, with milk or cream (this should be taken every morning); eggs, poached or boiled ; eggs and bacon, ham, fish, coffee or tea. Glass of milk (warm or cold), or milk and soda, with a biscuit, at 11.30. Bovril, broth, or beef-tea might be substituted for milk. Dinner at 2. Light soup, roast or boiled mutton, roast beef, chop or steak, poultry or fish, with vegetables, followed by light farinaceous puddings, stewed or ripe uncooked fruit, very

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little pastry ; and no twice-cooked meats, made-up dishes, or rich gravies. A cup of tea (not strong) and two or three slices of wholemeal bread might be taken at 5, and a more substantial meal at 7.30. This last might consist of some kind of light pudding, or a little fish (oysters, soles, plaice, whiting), bread and butter, and milk. Ripe fruit and vegetables in season are always wholesome, and tend to prevent irregularity of function. Many women find that a cupful of gruel, just before retiring for the night, is very comforting, and produces a good sound sleep. It is quite natural that a woman's appetite during pregnancy should be increased, because she has to provide for another organism as well as her own: therefore she should satisfy within due limits the greater craving she will experience for food.

Tight-lacing, tight bands, and pressure of any kind round the trunk must be abandoned. It is often death to the foetus *in utero*, and productive of the most painful parturitions to the mother, not infrequently operative interference becoming necessary. If women led more natural lives, prolonged and painful parturitions, operations, tardy convalescences would be almost unknown, except in circumstances of deformity, etc. If support is necessary as the months go by, there are properly

made and adjusted abdominal belts, which will give every relief, without pressing unduly upon the uterine contents. Should there be any tendency to swelling of the lower extremities, and venous enlargement, exercise must not be given up; but rest should be taken in the horizontal position during the day. Morning sickness, unless in exceptional circumstances and when disease is present, may be successfully combated by great regularity in the daily habits and strict attention to diet. A pinch of the bicarbonate of soda with one or two of the principal meals, or a little soda water now and then, will be found quite sufficient to allay stomachic irritation and reduce the sickness. If it should remain persistent and increase, medical advice should at once be sought. Violent and persistent vomiting may bring about miscarriage, and even death; therefore it should be treated directly it sets in.

I should like to say a word with regard to pregnant women being employed in physical work. It is quite certain that a reasonable amount of muscular work does not predispose to difficult or painful labours; on the contrary, a woman who is actively employed in a domestic way (of course not doing hard and exhausting work, such as carrying about heavy weights, washing, and so on) is generally

far healthier and more fit for her confinement, when the time comes, than one who has employed her time in lying on a sofa, reading trashy novels. Whether a woman should be engaged in the anxious and responsible task of earning her own livelihood during pregnancy is another question, which is not for discussion in these pages. But it certainly bears largely on the subject of the physical well-being of mother and child, and is one which should engage the attention of philanthropists and reformers, both male and female. But I contend that above all things, whether she be the wife of a working-man or the wife of a prince or a millionaire, she should be provided with as large an amount as possible of comfort, contentedness, health, and happiness ; and this not only in consideration of her own well-being, but of that of the unborn child.

CONCLUDING REMARKS.

In the space that has been placed at my disposal I have not been able to deal with all the subjects of health that I should like to have touched upon, for they would have increased this volume to double its present size. Perhaps at some future time I shall conclude what I have to say upon these matters in another volume, especially dealing with

the treatment of infancy and young children, and the prevention of infantile ailments.

It will have been noticed that I have not recommended drugs or written out prescriptions for various ailments. I do not consider this to be any part of hygienic subjects. We do not prevent disease by the administration of drugs, but by calling attention to the laws of physiology, of health. There is already far too much self-treatment by drugs, and far too much drug-taking of all kinds. When disease is present, it is quite time enough to have resort to drugs. But large numbers of people—and women I am afraid are the worst offenders—convert their stomachs into a chemist's shop, in the vain hope that they will thereby obtain health and strength. When the physician is called in, his drugs prove useless, because the system has been more or less impregnated with them over a series of years. Nobody ignorant of the effects of drugs on the various parts of the human system ought ever to tamper with them. The habit is a most pernicious one, and cannot be spoken against too strongly. Each case of illness or disease must be judged on its own individual merits. No two cases are alike; and if we say in a general way that iron is good for anæmia, and potash for gout,

yet we know that certain patients suffering from anæmia are very intolerant of iron, or certain forms of it, and that potash is not of the least use in certain cases of gout. *For these reasons I deprecate medical prescriptions in a book of the present kind, which I hope may otherwise prove a useful little manual of advice for those who, like myself, wish to live as healthy lives as possible in a world of alternate pain and pleasure.

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The Gentlewoman's Book
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Pr. 1552

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on 10 August, 2018

